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MAN is said to be a "social animal," writes Addison, "and as an instance of it we may observe, that we take all occasions and pretences of forming ourselves into those little nocturnal assemblies which are commonly known by the name of CLUBS. When a set of men find themselves agree in any particular, though never so trivial, they establish themselves into a kind of fraternity, and meet once or twice a week upon the account of such a fantastic resemblance." These clubs were very different from those of the present day, the rise of which is quite recent. They were mostly of a humble character, and moderate in their terms of membership, though leading to expenses and bad habits. In the Essex-street Club, founded by Dr. Johnson, it was stipulated that each member should spend not less than sixpence; that each absentee should forfeit threepence; and every person present give a penny to the waiter! The ordinary clubs of this kind were apparently very stupid, and promoted drinking and revelry rather than wit or intellectual conversation. Steel, in "The Tatler," gives an account of a prosy one, and moralizes at the close, in his manner, on the worthless conversation of some of the old men composing it. "The only way of avoiding such a trifling and frivolous old age," says he (and the advice is not out of date), "is to lay up in our way to it such stores of knowledge and observation as may make us useful and agreeable in our declining years. The mind of man in a long life will become a magazine of wisdom or folly, and will consequently discharge itself in something impertinent or improving. For which reason, as there is nothing more ridiculous than an old terrifying story-teller, so there is nothing more venerable than one who has turned his experience to the entertainment and advantage of mankind."

The Beef-steak Club was founded in the reign of Queen Anne:—

> "He that of honour, wit, and mirth partakes,
> May be a fit companion o'er beef-steaks."

The Beef-steak Society, a different association, was commenced in 1735, and in apartments of their own, at the Lyceum Theatre, the members still enjoy beef and conviviality one day in the week during the season.

The "Literary Club," founded by Reynolds and Johnson, in 1763, and which is still maintained, must be known by all readers. It met at first at the "Turk's Head," in Gerrard-street, Soho, and, besides the founders, included Goldsmith, Burke, Garrick, Boswell, Beauclerc, and Sir John Hawkins.

The "Wednesday Club," at the Globe Tavern, in Fleet-street, was another of those to which Goldsmith belonged. The position of the parties forming such clubs may be gathered from Derrick's anecdote of Goldsmith's introduction to the "Robin Hood Club." Goldy was struck by the important appearance of the chairman in his gilt chair, and said, "This must be the Lord Chancellor at least." "No," said Derrick, "He's only master of the *rolls*." He was a baker.

A few years ago we made the circuit of the London taverns, and were surprised to find how many merely convivial clubs (thought by some to have been "put down" by the popular Literary Institutions of the day) then existed, and indeed still exist.

Of the "chocolate houses" and coffee-houses, which took an associative character, White's, of St. James's-street, was, perhaps, the earliest. As White's Chocolate House, on the site of what is now "Arthur's Club House," it was established between 1690 and 1700; and as *White's Club House*, 38, St. James's-street, opposite to what used to be "Crockford's," it is known at this day. White's, Boodle's, the Grecian, the Cocoa Tree, are all historical: each of them symbolised certain opinions or habits. As Defoe writes (1722), "A Whig will no more go to the Cocoa Tree or Ozinda's than a Tory will be seen at the coffee-house of St. James's." The character which formerly attached to those who belonged to White's was that of men of pleasure and desperate gamblers. The Earl of Oxford cursed it as "the bane of half the English nobility;" and a story is mentioned by Walpole to the effect that a man dropping down dead at the door of the club, bets were made by the members whether he was dead or not, and they would not permit his being bled because it would affect the fairness of the bet.* The first house was burnt 1773, when it was kept by a Mr. Arthur. There is a book containing the "Rules of the old Club at White's," dated 1736, with a list of the members which includes the names of many leading men. The original front of the building now occupied by the club, and where it has been since 1755, was designed by James Wyatt. From time to time the house underwent various alterations and additions; and several architects have been employed to carry these into effect: among those of later date were Mr. Higgins, the late Mr. Goldicut, and the late Mr. Papworth. In the autumn of 1850, certain improvements being thought necessary, it came to be considered that the front was of too plain a character, when contrasted with the many elegant buildings which had risen up around it. Mr. Lockyer was consulted by Mr. Raggett as to the possibility of improving the façade; and under his direction it has been made to take the appearance represented by our engraving.†

The four bas-reliefs, representing the four seasons, which occupy the place of four sashes, were designed by Mr. George Scharf, jun. The works were executed in a very short space of time by Messrs. W. Cubitt and Co. and the interior was redecorated by Mr. Morant.

The club, which is at this time limited to 500 members, was formerly composed of the high Tory party, but though Conservative principles may probably prevail, it has now ceased to be a political club, and may rather be termed "Aristocratic." Several of the present members have belonged to the club upwards of half a century, and the ancestors of most of the noblemen and men of fashion of the present day who belong to the club were formerly members of it. It may be gathered, from what we have said, that the management of the club is quite different from that of others of recent date, Mr. Raggett being individually the proprietor. The freehold was purchased by his late father in 1812.

Of some of the other London clubs, and of the expediency of extending their advantages, we shall find another opportunity to speak. The simple fact that from a published account of 17,323 dinners at the "Athenæum," the average cost was 2s. 9¾d. each, and that the average quantity of wine for each person was a small fraction more than half a pint, speaks volumes.

* Quoted in "The Handbook for London," where there is an account of the club; but rather, as Mr. Raggett, the present proprietor, informs us, of what it was than what it now is.

† See p. 249.

THE LATE MR. THOMAS ALLASON, ARCHITECT.

WE record, with regret, the death of an accomplished architect, and an esteemed friend, Mr. Thomas Allason, which took place on Friday, the 9th, after a few hours' illness, in the 62nd year of his age. The lives of artists and architects are best written in their works, but a few biographical incidents may always be gleaned from those who have gained eminence and success in their profession, which may serve as guides, and encourage emulation in others who are embarking on a similar voyage of life. Mr. Allason earned his prosperity by an untiring devotedness to his professional duties: he was strictly "*faber fortunæ suæ*," and accumulated during a practice of nearly forty years a handsome independence. Brought up in the office of Mr. Atkinson, an architect of some celebrity, he distinguished himself at a very early period by the neatness and elegance of his drawings, and obtained the gold and silver medals from the Royal Academy. At that time "Stuart's Athens," and "The Antiquities of Attica," were the class-books of an architect's office, while the works of Soane, Wilkins, and Smirke gave the tone of architectural design to the student. Mr. Allason carefully studied Greek architecture, and appreciated its beauty. All his own designs are strongly impressed with the delicacy of feeling and carefulness of finish which such studies inevitably produce upon an educated mind.

His taste for Greek architecture was still further confirmed by a tour which he made on the continent and through Greece, as draughtsman to Messrs. John and Edward Stanhope, whom he assisted in their examination and publications on the remains at Olympia and Platæa. On his return from this tour, he published in folio a work on the antiquities of Pola, and a clever etching of Milan Cathedral.

Established in London in the year 1817, he was extensively engaged as an assistant architect, and his pencil supplied numerous designs, not only for buildings, but also for furniture decorations and landscape gardening. In this latter branch he was very successful, and was retained for some years by the late Earl of Shrewsbury, in laying out the gardens at Alton Towers and in designing additions to the mansion.

When the members of the Stock Exchange founded the Alliance Fire Assurance Company, Mr. Allason (having obtained experience as an assistant in a similar office) was appointed their surveyor. This introduction to the moneyed interest of London gave him many opportunities of developing his talents. The Rothschilds, the Montefiores, and Ricardos, were his clients, and brought him also a valuable city and private connection. He erected many villas and mansions. The Alliance Fire Office, in Bartholomew-lane, is perhaps his chief architectural public edifice; but it is only necessary to refer to the other appointments which he held, such as surveyor to the Stock Exchange, the Pollen estate in London, the D'Este estate at Ramsgate, &c. to appreciate the labours of his life. Unlike many of the profession, who have the credit of designs which their pencil could not delineate, Mr. Allason worked out all his buildings by his own hand, from the rough plan down to the minutest detail of a working drawing. He never had but one pupil, and but one clerk. He began life dependant on

his own exertions, and pursued his course throughout with a stern independence of mind.

Though fond of the arts and well known to the artists, he never enrolled himself as a member of any of the societies connected with architecture or the arts. He placed himself, notwithstanding, in a good position in the profession, and on a late occasion, when the Board of Metropolitan Sewers was remodelled, he was appointed one of the commissioners.

Private friendship incites us to proceed further, but enough has been said to indicate the sources of success in an architectural career.

THE TEMPLES AND ROSES OF PÆSTUM.

NOTES OF A LADY'S VISIT.

You wished to have some particulars of our excursion to Pæstum, but before giving you them, I must warn you to arm yourself with all your patience, for I intend to be minute in my descriptions.

To commence, then, at the beginning: We left Naples in the afternoon of the 29th of October, proceeding to Nocera by railway: it extends no farther, but its sudden termination is not much to be regretted, for the distance from Naples—which is only 18 miles—occupies an hour and a half, exclusive of detentions at starting and on arriving. The hedges of China roses in full bloom, which bordered the railroad, looked fresh and lovely, but somehow their beauty only made me the more melancholy from the contrast it presented to the hideousness of the marvellous masses of lava through which the line is, for some distance, cut. It is quite depressing to think of the desolation that has been everywhere produced by such overwhelming floods of fire. These beds of lava still serve, as they have done for centuries, in the stead of stone quarries. Arrived at Nocera, all the passengers and the luggage of the train just arrived, and of that about to depart, have to struggle through one only gateway, mingled with loathsome beggars and revolting cripples; and if you shrink on one side to avoid contact with these distressingly unclean objects, it is at the certain peril of your head from the close proximity of a luggage-laden porter.

At last a carriage was procured to convey us to Salerno, a distance of about nine miles, and a drive of from an hour and a half to two hours. The road must be very romantic and pretty, from the occasional glimpses we had of it through the windows of the carriage; but the rain unfortunately compelled us to shut both itself and the view out at the same time. At Salerno, during the evening, we fortified our courage by reading the Strangers' Book of the Hotel Vittoria, which is half filled with accounts of the robberies committed on travellers to Pæstum: one party especially stated they had been met by fourteen armed men, who took from them seven gold watches, and all the money they had with them. On inquiring of the landlord the truth of these accounts, he admitted such had actually been the case, but added, "that was during the Constitution, and there is now, I assure you, nothing to fear." If required, the landlord will accompany any party to Pæstum, and the testimony of ladies to his kindness and attention on such occasions is most eloquent.

During the night the rain continued to descend in torrents, but, though proceeding on our journey seemed hopeless, we nevertheless rose at four o'clock, for we wished to start at five, so as, if possible, to return to Naples the same evening. However, it was deemed prudent to await the daylight, so we left the hotel only a little before seven, with a good luncheon prepared for us by our invaluable courier, he and the driver in front of the carriage, and a nice active lad as a sort of footman, who packed himself away behind, underneath, or somewhere, but where I never could make out: I only knew that in any emergency, such as the horses kicking over the traces, the harness breaking, &c. &c. he was always at hand, and always most efficient and most good-tempered. This is the Neapolitan method of learning the business of coachman, and not until a young man has attended a carriage in this manner for four years is he allowed to turn driver. Twice during the journey we came to a halt to hold a council as to the propriety of relinquishing the expedition, for danger began to be talked of from the roads being so bad, and from a certain river, the Sele, which is four miles from Pæstum, being impassable after heavy rains; but each time the casting vote was given to, or was appropriated by, the lady of the party and—on we went. Every passenger, and especially every thing on wheels, that we met, was stopped with the anxious inquiry, "Is the Sele open?" and the answer was always, "It is still, but make haste, for in two hours you will not be able to come back." The alternative was, we knew, sleeping in the midst of malaria, and in a horrible little wayside inn, which we afterwards found was too dirty even to lunch in; but nevertheless, on we went. When we reached this redoubtable torrent we had to descend from the carriage, which was wheeled down an inclined plane of mud three or four inches thick (and through which we had to wade on foot) into an equally muddy barge, which is towed across by means of a fixed rope. The great danger in stormy weather arises not only from the strength of the stream, but also from the large trees and masses of earth which are whirled along by the torrent, and which, if the rope broke, would hurry barge, carriage, mud and all along with them into the sea. While the carriage was being wheeled up again on to the road on the opposite side we took refuge from the pitiless rain in the bargeman's hut, and when he came in, seeing the condition of our mud-begrimed shoes, he immediately took his handkerchief from his pocket, and with it wiped them tolerably dry and clean. An Italian always carries a handkerchief, whatever else he may lack.

We proceeded on our journey, and as we neared the Temples purposely avoided looking out for them, in order that they might burst suddenly upon us in all their magnificent proportions, and their solitary grandeur. Just as we alighted from the carriage, the rain ceased, and the sun shone brightly forth, as if to add a new charm to this interesting spot.

The Temples stand at a little distance from the road on the right hand side, and on a grassy and wild-thyme-perfumed plain: they are all *three* within a few yards of each other. Idle boys are kept off by a rough railing, in which is a locked up gate; but, in spite of this wise precaution on the part of the king of Naples, the custodian himself is the great marauder, for he deliberately broke off a large piece of the beautiful sharp flute of a column, and brought it to us, saying, "Every visitor likes to take home a piece of the stone:" the offer was indignantly rejected, but on being sharply remonstrated with for committing such wanton destruction, he only laughed aloud at the absurdity of the idea.

I have heard, or read, somewhere, that Augustus was taken when a youth to Pæstum, to see these even-then-considered marvellous erections. I fancied it was in Gibbon, but I have consulted him in vain.

In the tenth century the Saracens invaded this part of the country, and formed a settlement in the neighbourhood of Pæstum, where they long resisted all the efforts of the Dukes of Beneventum and the Greeks to expel them. This was the period in which they devastated Beneventum, Bari, Matera, and other towns; and it seems that Pæstum was ruined about the same time. In the following century, after the expulsion of the Saracens, King Roger the Norman ransacked the Temples and other buildings of their marble and ornaments, to adorn the cathedral which he raised at Salerno. During the middle ages the remains of Pæstum lay unnoticed, but not unknown, for the Temples are conspicuous objects from almost every part of the Gulf of Salerno; but the country had become unwholesome, and was also infested by outlaws, and therefore strangers did not venture into it. When Don Carlos Bourbon conquered Naples, towards the middle of the last century, and became the resident sovereign, he revived the taste for the arts and antiquities. In 1758 Winkelman visited Pæstum; and in 1767 appeared in London the first description of Pæstum.

The Temples are now almost the sole evidence of the opulence of *Poseidonia* or Pæstum. They are three in number, and two of them are in tolerably perfect preservation. According to Paoli, the architecture is to be considered rather as Etruscan than Grecian; yet, whatever may be the country of the architects, there is no disputing that the buildings themselves essentially belong to the Doric style.

In the great temple, called the Temple of Neptune, the height of the column with the capital is said to be 29 feet 10 inches; the lower diameter, 7 feet; the upper, 4 feet 9 inches.

The first temple visited by us, and the smallest, is called the Temple of Ceres: the columns are all standing, thirteen on each side, and six at each end: they are about 20 feet high and 4 in diameter, and rest on the lowest of three steps. Above the columns is an entablature, and over this rises the pediment, perfect at one end, but at the other only a fragment, and that rebuilt just to preserve the general effect.

The Temple of Neptune has fourteen columns on each side, and six at each end: they are not so suddenly tapered as those of Ceres, and have a much more pleasing appearance: in other respects they are similar, excepting that they are placed on the highest instead of the lowest of the three steps. In the interior is a second inclosure of columns, above which is part of a row of smaller ones, and at each end is a vestibule formed by two enormous square pillars, and the two end columns of the inner row.

Near this is the Basilica, which has on each side eighteen, and at each end nine columns. The interior is divided into two equal parts, by a row of similar columns down the centre.

The stone of which the Temple of Neptune is built is darker in colour than that of the Basilica and of Ceres, but it all presents the same peculiar species of decay as if it had been eaten out by insects: it looks, indeed, very much like the dried mud from Terni. The Neptune Temple is in colour exactly like freshly cut cork, and at a distance it might be fancied a gigantic model of this material.

Part of the wall of the town is still very sharp and perfect: there is a Porta, too, which we did not see, for the grass was so terribly wet with the rain. Of the amphitheatre I believe nothing now remains but traces of its form, and curious vaults.

In fine weather visitors take their luncheon in one of the temples, but we were obliged to have ours in the carriage while the horses were resting: the horrible little inn was far too dirty, too beset with beggars, and too filled with tobacco smoke to render the idea of *eating* there endurable. We afterwards amused ourselves with feeding three hungry and famished-looking dogs, and the eagerness with which they swallowed the fare we bestowed, made us imagine that Salerno viands were—and perhaps even food at all was—a rarity at Pæstum. We were scarcely again *en route* before the rain once more descended, and it most pertinaciously accompanied us all the way back to Salerno, where we arrived about six o'clock, and returned the next morning to Naples. The time occupied by us was, in all, two days, and in actual travelling, nineteen hours. The distance from Naples to Pæstum is 102 Italian miles.

Thus terminated our journey to Pæstum, an excursion to which I had always looked forward with vague dreamy longing, since the school-days in which I used to read of the exquisite Pæstum roses, still freshly blooming amidst ruined temples and prostrate columns. Unfortunately it was too late in the year for my floral anticipations to be realized, but the sublimely grand erections which stood before us, more than compensated for the absence of lesser, if sweeter, beauties.

No doubt if I had waited until a few more of the interesting "Letters to Sorillah," had appeared in your journal, I could have sent you a more correct description of these stupendous temples, but as these letters are

only bestowed upon your readers once in a fortnight, my natural impetuousness of disposition conquers my better judgment, and compels me to send you this note at once.

ON METALLIC CONSTRUCTIONS.

MR. W. FAIRBBAIRN, C.E. and F.R.S. of Manchester, has been lecturing to the Mechanics' Institution there on metallic constructions. The subject of his lecture, on Friday, in last week, related chiefly to ship building, but contained various important tables indicative of the strength of materials, which we prefer selecting, as the pith of the lecture, to any attempt to report at length what may be found in the local papers of 10th inst.

Resisting Powers of Cast-iron.—From a number of carefully conducted experiments on cast-iron, I have selected the following results. They are the highest in the order of their powers of resistance to a transverse strain, and as in each instance the bar is reduced to exactly 1 inch square, the results may fairly be estimated as a criterion of the resisting powers of the different irons of Great Britain :—

Transverse Strength of Cast-iron Bars, 1 inch square, 4 feet 6 inches between the supports :—

	Name and number of iron.	Breaking weight in lbs.	Deflection in inches.	Power to resist impact.
Welsh.	Ponkey..... 3 C ...	581	1·747	992
	Beaufort ..... 3 H ...	517	1·509	807
	„ ..... 3 C ...	448	1·726	747
	Mean.....	515	1·691	848·6
English.	Low Moor..... 2 C ...	472	1·852	855
	Butterly ..... H ...	502	1·815	899
	Elsecar ..... 2 C ...	427	2·224	992
	Old Park ..... 2 C ...	485	1·621	718
	Mean.....	471	1·778	863·5
Scotch.	Muirkirk ..... 1 C ...	418	1·370	656
	Carron ..... 3 C ...	443	1·336	593
	Monkland ... 2 H ...	403	1·762	709
	Gartsherrie ... 3 H ...	447	1·557	998
	Mean.....	428	1·556	739

The letters C signify cold blast. H, hot blast.

From the above it will be perceived that the average transverse strength of eleven specimens of English, Welsh, and Scotch iron is 471 lb. on 1-inch square bars, 4 feet 6 inches between the supports. These again give a mean deflection of 1·675 inch, and a power to resist impact of 817. Similar irons will resist a tensile strain and a crushing force per square inch as follows :—

Experimental results to determine the ultimate powers of resistance to a tensile and crushing strain :—

Description of iron.	Tensile strength per square inch of section.	Height of specimen.	Crushing strength per square inch of section.	Ratio of tension to compression.
	Tons.	Inches.	Tons.	
Low Moor, No. 2....	6·901	1½	41·219	1 : 5·973
Clyde, No. 2....	7·949	1½	45·540	1 : 5·729
Blenarvon, No. 2....	7·466	1½	45·717	1 : 6·123
Brymbo, No. 2....	6·923	1½	34·356	1 : 4·963
Mean	7·309	1½	41·710	1 : 5·707

In addition to the irons given above, which are those in common use, Mr. Stirling's mixed or toughened iron exhibits considerably increased powers of resistance to every description of strain when compared with the unmixed irons. Mr. Stirling has patented a process for mixing a certain portion of malleable with cast-iron, and when carefully fused in the crucible the product is equal to resist a tensile strain of nearly 11 tons per square inch, and a compressive one of upwards of 60 tons, the specimens being 1½ inch long and 1 inch square. This mixture, when judiciously managed and duly proportioned, increases the strength about one-third above that of ordinary cast-iron.

Resistance of Wrought-iron Plates to a Tensile Strain.—In these experiments, which were made on five different sorts of iron, the tensile strengths in tons per square inch are as follow :—

	Torn asunder in direction of the fibre.		Torn asunder across the fibre.
	Tons.		Tons.
Yorkshire plates	25·770	...	27·490
„ „	22·760	...	26·037
Derbyshire „	21·680	...	18·650
Shropshire „	22·826	...	20·000
Staffordshire „	19·563	...	21·010
Mean	22·519		23·037

Or, as 22·5 : 23, equal to about $\frac{1}{23}$ in favour of those torn across the fibre. In following up the same investigation on timber, I found, according to Professor Barlow, of Woolwich, that the cohesive strength of different kinds of hard wood were—

	lb.		lb.
Box.....	20,000	Beech.....	11,500
Ash.....	17,000	Oak.....	10,000
Teak	15,000	Pear	9,800
Fir	12,000	Mahogany	8,000

Assuming Mr. Barlow to be correct, and taking the main strength of iron plates, as given in the experiments, at 49,656 lbs. to the square inch, or say 50,000 lbs. we have this comparison between wood and iron :—

	Timber. lb.	Ratio.	Iron. lb.	Ratio Timber representing unity.
Ash.....	17·000	:	50·000	..... or as 1 : 2·94
Teak	15·000	:	50·000	..... or as 1 : 3·33
Fir	12·000	:	50·000	..... or as 1 : 4·16
Beech.....	11·500	:	50·000	..... or as 1 : 4·34
Oak.....	10·000	:	50·000	..... or as 1 : 5·00

Hence it appears that malleable iron plates are five times stronger than oak, or, in other words, their powers of resistance to a force applied to tear them asunder is as 5 to 1, making an iron plate ¼-inch thick equal to an oak plank 2½ inches thick.

The results obtained from forty-seven experiments on double and single rivetting are here recorded :—

Cohesive strength of plates; breaking weight in lbs. per square-inch.	Strength of single-rivetted joints of equal section to the plates, taken through the line of the rivets, in lbs. per square inch.	Strength of double-rivetted joints of equal section to the plates, taken through the line of rivets, in lbs. per square inch.
57·724	45·743	52·352
61·579	36·606	48·821
58·322	43·141	58·286
50·983	43·515	54·594
51·130	40·249	53·879
49·281	44·715	53·879
43·805	37·161	
47·062		
Mean 52·486	41·590	53·635

The relative strengths will, therefore, be,—for the plate, 1,000; double-rivetted joint, 1,021; single-rivetted joint, 791; which shows that the single-rivetted joints have lost one-fifth of the actual strength of the plates, whilst the double-rivetted joints have retained their resisting powers unimpaired. These are convincing proofs of the superior value of the double-rivetted joints. . . . Having established correct data as respects the strengths of materials, either singly or in combination, we shall have less difficulty in their application to the construction of vessels exposed to severe strains, such as boilers, bridges, or an iron ship.

OBSERVATIONS ON TEACHING DRAWING,

ESPECIALLY TO CHILDREN AND UNEDUCATED BEGINNERS.

WITH whatever view we educate a beginner, and however high may be his future destination, we may be assured that refined lines, exquisite forms, perfect *chiaro scuro*, and harmoniously blended colouring, are not the commencement of art, and the beginner will not profit by mocking these. The beggar's appearance is nowise improved by an array of silken tatters; nor does the child become a warrior by getting a sword of lath and a wooden gun.

If it be desirable to educate the young human being into the adult comprehensive artist, all his faculties must be exercised, and, as a general rule, together: he must not be a thing of threads and patches. However correct and beautiful these are, chance will not jumble them into a harmonious, natural whole, fitted to act (as all high art should) on the entire being of the competent observer. This union is the most difficult thing of all, even under the most favourable circumstances, and it is the highest of all; and by most who strive it is rarely attained. Does the French plan of devoting many years to the sole copying of the finest lines ever produced and the most accurate shadows in neutral colour create real artists? What they do belongs not to this world—it is lifeless, repulsive; while the delay of colour to a late period of a life previously spent on black chalk and grey paper, destroys all feeling for colour. The colouring of many of these artists is disagreeable, and frequently disgusting. If an eye for colour be not got early in life, it will probably never be attained.

So also of the higher mental faculties connected with art, especially the invention or imagination. If these be disregarded until late in life, mere imitators, mere clever machines are the usual results. No beings are so imaginative and inventive as young children, and why should their faculties be smothered in unfathomable strata of mathematical diagrams? In our zeal for the hand we must not forget the head.

Let the understanding go first, above all things, and rule the hand and eye. By inverting this order, and allowing the hand and eye to take precedence, and rule over the higher powers, good mechanical draughtsmanship may be attained, but the most valuable purposes of drawing are lost sight of.

More than one instance has been observed of children unusually slow and incorrect in imitative drawing; who have exhibited at least the average powers in exercises for the invention. Renewed exertion is likely to take the place of despondency on finding that they are not always below their fellows. Exclusive attention to single parts is apt to distort the mind by the very success attained in such partial operations. Hence many of the common mannerisms and tricks into which artists are so apt to settle down.

No one was ever a great artist who was not a great man: and yet we try to make great artists by preventing our pupils from becoming even little men. A human being is not an anatomical preparation, nor a thing of dry bones, be they bleached ever so whitely, nor a walking rule and compasses. It is a painful sight to witness youths set to copy from morning to night,—their general education neglected, and even their art-faculties of the higher kind uncared for. The true artist is made of other stuff. Universal powers are wanted for his high future calling. Like the young of every other kind, he tries his powers in every way, in mimic action certainly, but they all act, and act together rather than apart: thus, in time, all attain adult proportions. He copies, not for the sake of copying, but to show him how he may be a better original. Of himself he does what he can, and then copies to find out how he can do better; but he never gives up working for himself. He makes lines, the best he can, and bad they are: in time he does better and better, for perfect lines betoken high art. He copies lines occasionally, and mathematical figures, not for their own sake, but because he has made such general advance as to feel his imperfections and to desire to remedy them. He wishes to learn all art, and not merely a few tricks of the hand; to imitate nature with refinement and feeling, not to make a staring likeness of petty details. Hence his work is an endless variety of trials and experiments in all directions: outline, shade, colour, composition perpetually recur from beginning to end, but not as things apart; and less as things in themselves than as the sensuous exponents of thought and emotion. Above all, he will not willingly do anything that he does not understand; not through the vain belief that he has arrived at perfection, and that there is not much that is true and good and great that he will never reach; or that there is not much hard work still before him to attain even a slender portion of these; but because he is assured that if he once lose his firm footing on the earth he will be tripped up and tossed about in the ocean of distraction and error.

The admirers of the abstract method contend that bad habits must be guarded against, and none but good habits permitted and enforced from the beginning of the youngest pupil's instruction. There appears to be a fallacy here. If good habits only are permitted, nothing can be learned or executed. The novice must inevitably begin with bad habits: if he did not, he would not be a beginner, and would not require to be taught. He begins with bad habits, and goes on slowly and progressively improving them, until at last he acquires good habits, or habits as nearly good as are compatible with his own capacity and his master's skill. If he and his instructor

* See p. 332, *ante*.

expect good habits at once in any one point, they will be grievously disappointed. And if the master thinks that effectual tuition is not a slow transit from what is bad, through what is less and less bad, to what is positively good, —if he expects the distance to be cleared by a single leap,—he will be no less disappointed.

If there be any truth in these views, it will follow that the highest and most refined stages of form, light and shadow, and colour, are unfit for the beginner because they are unintelligible and inimitable in his crude state; and that comparatively clumsy objects of imitation prepared to meet him half way are far preferable. The child can understand the form of an article in daily use and will have some chance of imitating it, when a recondite and an exquisitely-formed Greek vase would be quite out of the question; and he may seize the points and character of one of George Morland's rude but natural and expressive husbandmen, though he would be bewildered before the Laocoon or the Apollo.

NOTES IN THE PROVINCES.

Over Darwen.—A new Independent chapel is about to be erected in this place from the designs of Mr. Raffles Brown, of Liverpool. It will be in the Early Decorated style, built of stone from the neighbouring quarries, and will consist of nave and transept, with vestries and organ-gallery in the rear. The roofs will be open-timbered of equilateral pitch, that of the nave having dormer windows. The west elevation will have a six-light window, with arcaded porch, and be crowned with a lofty crocketted and canopied bell turret rising to the height of 90 feet. The accommodation is for eleven hundred adults and three hundred children. The estimated cost is 3,000*l.* It is intended to erect schools adjoining. The present chapel, which is in close proximity to St. James's Episcopal chapel, reported as unsafe in our columns some weeks since, has been so undermined by the working of the neighbouring coal mines, that it has been found necessary entirely to close it. Many of the cottages and houses surrounding it are in a most precarious condition, but so infatuated are the inhabitants that it has been found impossible to induce a family to remove from a house showing frightful cracks and rents in the walls, and of which the hind part absolutely fell in a few weeks since.

Yarmouth.—The new bridge is progressing. The pile-driving of the coffer-dam is completed for the western pier. The washers and eye-bolts for the tie-rods have been put in, by means of a diving dress, 20 feet under water, and the first course of landings on the bed of concrete has been put down. The pumps and two steam engines will be ready shortly to pump the water out of the dam. The river has been widened 80 feet, and the abutments finished on each side. The girders and iron parts of the bridge are ready in London, and will be put up when the piers are finished.

Lincoln.—The local *Chronicle* states that gas is being introduced into private houses, and that the late reductions in price are likely to produce a greatly increased consumption.

Norwich.—A few weeks since, a new window, for the south aisle of the cathedral, was executed by Mrs. Watson, under the direction and design of Mr. J. Brown, of this city, architect. It is in memory of the late Mr. and Mrs. Hales, through the instructions of the Rev. Hales Tooke. The artist is Mr. W. W. Wailes, of Newcastle-on-Tyne.—*Norfolk Chronicle.*

Cottenham.—A small piece of copyhold ground in this village has been knocked down at auction for 232 guineas. It contains a frontage of 78½ feet, with a depth of 158 feet. The sum realised is rather more than 1,000*l.* per acre.

Horsepath (*Oxford*).—The corner stone of a new north transept to Horsepath Church was laid on Saturday week. The architect is Mr. E. G. Bruton (appointed to succeed the late Mr. Underwood), and the builder, Mr. Cowley.

Winchester.—It is intended to erect a full-length statue of Lady Mildmay in the broad space where three roads intersect, near the site of her former residence at Eastgate. It is to stand on a pedestal 6 feet in height, and is to be larger than life.——Some one has suggested the erection of a fountain in the Cathedral-close.——Improvements are to be made on the brow of St. Giles's-hill by the council.

Evesham.—Arrangements are being made between the town council and various turnpike trusts to erect a new bridge in the place of the present old and dilapidated one, at an estimated cost of 6,000*l.*

Aberystwith.—It is proposed to build a new Welsh church in this town; and sums are already subscribed. A piece of ground, part of the corporation property, is fixed upon; and the necessary steps were lately taken to advertise for tenders.

Swansea.—An estate called Danygraig, near Swansea, with about 100 acres of land, has just been purchased of the Earl of Jersey for the purpose of erecting a joint lunatic asylum for the counties of Glamorgan, Carmarthen, Pembroke, and Cardigan. Plans and specifications are to be advertised for forthwith.

Birmingham.—The local *Journal* states that indirect means are at work for the removal of the market-hall fountain.

Warwick.—"It will be recollected," says *Aris's Gazette*, "that a short time ago the inhabitants of Warwick assembled in vestry and decided on the thorough restoration of St. Mary's Church, in that town. At a meeting held on Tuesday last, however, it was decided that although the church should be restored, the galleries should not be removed. The restoration of the chancel is nearly completed. The groining is freed from plaster and whitewash, and the stonework resumes nearly its original appearance. The stone screen accidentally discovered to be imbedded in the sacristy wall has been cleansed and repaired, and the upper portion of it filled with stained glass by Mr. Holland, of Warwick. The former unsightly door leading into the chancel has been replaced by one in new oak.

Gaydon.—The foundation-stone of a new church, to replace the dilapidated old one, was laid at Gaydon, on Thursday week, by Miss Bolton King. Mr. E. B. King is a donor of 500*l.* to the building fund. The edifice will be in the Early English style, and will consist of nave, chancel, north aisle, and engaged tower, with spire, and will be built of stone. The architect is Mr. Squirhill, of Leamington.

Liverpool.—The interior of the parish church of St. Nicholas, Chapel-street, has been repaired and renovated with open pews, new pulpit, improved organ, new stained glass in circular window, &c.

Manchester.—The engineer employed by the Manchester corporation to construct the immense reservoirs in the valley of the Etherow, near to Woodhead (nineteen miles from Manchester), from which the town is to be principally supplied with water, is said to have met with a serious check by a landslip extending over nearly 30 acres of ground. These reservoirs are three in number, one below the other, in the same valley, and are formed on the principle of that at Holmfirth—by throwing embankments across at the most eligible points to dam up the water. The first is the Woodhead reservoir, calculated to contain 188,000,000 cubic feet of water, and covering 131 acres of ground. The next is the Tor-side reservoir, calculated to contain 240,000,000 cubic feet of water, and covering 158 acres. The third is the Rhodes Wood reservoir, calculated to contain nearly 80,000,000 cubic feet of water, and covering 54 acres. The corporation, it appears, have agreed with Mr. Stephenson and Mr. Brunel to make a survey and advise with Mr. Bateman as to any re-arrangement or modification of the works which may be necessary in consequence of the land-slips referred to.

Cudworth (*Barnsley*).—The foundation-stone of a new school was laid at Upper Cudworth, on Monday in last week. The design is Gothic: architects, Messrs. Lockwood and Mawson, of Bradford; builders, Messrs. Wilson and Son, of Hull, the contractors for the masonwork of the new workhouse at Barnsley. The school consists of a large room for school and chapel, and a class-room adjoining, both on the ground-floor.

Doncaster.—A committee has been appointed by the local board of health to carry out a project for a new cemetery.

Glasgow.—The Gorbals parish church, it seems, was built on ground supposed to have been purchased by the then heritors, but only feud, and arrears of feu having lately been demanded by the ground landlord and refused, the church was lately sold by auction for 2,860*l.* (upset price 2,700*l.*) to the Free Church people, after being bid for by the Unitarians.

Edinburgh.—Model dwellings for the working classes at the head of Canongate, named Ashley-buildings, are nearly ready for occupation. The entire block is divided into three tenements, each with a common stair and separate entrance. The two western are four stories in height, and the eastern five. Each floor or flat comprises three "houses" with outer doors opening on a common landing-place in the stair, and each domicile is "self-contained," and independent of every other; as much so as if it opened on a street pavement. The staircases are wide, open, and well lighted both by night and by day, gas supplying the place of daylight after dark. Each "house" consists of two rooms; or kitchen, and parlour or bed-room, with large windows, some of them commanding fine views of the Calton-hill and its monuments, &c. Each is fitted up with its own scullery, water-closet, washing-room, coal-press, &c.—and in short, is an Englishman's house in miniature, and is much more a fortified and impregnable "castle" than many thousands of Londoners' dwellings are. The rent charged for each dwelling amounts, in this case, it is said, to not more, on an average, than one penny per day for each member of a family. Nearly the whole were let before the roof was up. The contractors are Messrs. Beattie. Though the principle on which the model dwellings are based has long been adopted in Scotland, it must, of course, be understood that the Edinburgh working classes have seldom or never had such advantages as now offered on Lord Ashley's plan.

CHEPSTOW RAILWAY BRIDGE.
RAISING THE TUBE.

THE singular railway bridge over the Wye, at Chepstow, was partly raised on Thursday, the 8th. The bridge, when completed, will be in length, from bank to bank, 610 feet. It will be of four spans, three of about 100 feet each, and one of 290 feet. The three smaller spans rest upon iron piers, filled with concrete, supporting cast-iron girders, on which the railway will be constructed. The fourth or principal span will be constructed upon the suspension principle, the great length of the girders requiring more support than that afforded by the piers alone at each extremity. Mr. Brunel therefore constructed a tube 309 feet in length, and 9 feet in diameter, which is being raised to the summit of piers erected on the east bank, and in the centre of the river, and from which massive chains depend, which will be fastened to the girders, and will hold them up in the centre. The girders on which the railway will run will be 50 feet above high-water mark at spring-tides. The tube, therefore, it will be understood, is over only half the bridge. There will be a second tube by the side of it, for a second line of rails. The weight of the tube, with the chains, is about 240 tons. We understand that the great difficulty in the construction of this work, and which has caused the delay in its completion, has been in the erection of the upright pillars or piers supporting the structure. It should be explained that these piers are formed by three groups of pillars formed of iron cylinders placed one upon another to the required height, and filled with concrete made of Portland cement. Of these pillars six are grouped together in the centre of the river, and the two other groups of three piers each are between the centre of the river and the west bank. Of these three pillars only two are at present erected—sufficient to support one set of rails: the third will be

added when the other set of rails, the down line, is completed. The six principal piers in the centre of the river are strengthend by four other shorter auxiliary pillars, which are not visible at high water. The whole of these piers were sunk into the bed of the river through different strata until they rested upon the solid rock, 49 feet below the surface of its bed. It seems that the borings which had been made when the line was laid out led to the belief that the solid rock would be reached at a depth of 37 feet below the bed of the river, but when it came to the actual work it was found that the stone indicated at that depth was nothing more than loose "boulders," or masses of stone and rock—specimens of all the different lapidary strata of the district—cemented together with red clay, there being beneath these boulders several other strata of sand, &c. before the solid rock was arrived at.

The tube was supported on a massive timber framework at each end resting upon iron rollers lying across a railway; and powerful crabs were used for drawing and pushing the tube along the stage, which projects 160 feet into the river. At the end of the stage three pontoons, braced together, were lying in the river, and these received the east end of the tube, which was made fast to it; and as the tube was projected forward the pontoons were moved across the river, and kept in their direct course by cables attached to strong moorings both up and down the river, worked by other crabs upon the pontoons.

To raise it, three sets of chain-lifting tackle are employed, the lower parts of these chains being of 3-inch iron, each tested to bear a weight of 80 tons without injury. Suspension rods at these points pass through the diameter of the tube. These chains extend from a timber framing at the top of the east pier, 180 feet above the railway level, and are worked by three double crabs of great power, worked by twelve men to each. It is to be regretted that the appearance of the bridge is singularly ugly.

SIGHTS AND SCENERY.

The Royal Lyceum Theatre.—The dramatic story in *eight* acts, which has been produced by Mr. Charles Mathews, under the title of "A Chain of Events," and occupies the whole evening, is an entire departure from what has been the custom here at Easter. It is very exciting, exceedingly well acted, beautifully put upon the stage, and completely successful with the audience. Still we have no desire to see such "lengthened sweetness" universal, and hope its success may not lead to any adoption of the style, in which case we might expect, on the next occasion, to hear the facile and clever lessee announcing, with one of his neatest bows, "to-morrow night this play will be—*continued.*" Mr. Mathews has himself the principal part, and one exceedingly well adapted to him, but Madame Vestris, Mr. F. Matthews, Miss Keene, Mr. Roxby, and Miss St. George, have all excellent parts, and make the most of them. There are eight scenes, all excellent. The most striking is, "The Market of the Innocents, Paris," by moonlight, which is the place itself,—the sky capitally painted. But there is equal ability shown in some simple interiors: "Bonneau's House," and a "Room at Theresa's." A storm at sea is managed with a truthfulness which is almost appalling.

The Royal Princess's Theatre was opened on the 12th for the first time since Mr. Kean's recovery from his late serious indisposition, with the reproduction of the "Corsican Brothers," in which that gentleman sustained his original character, we were glad to see, with unimpaired vigour. The production of a new extravaganza from the pen of Mr. Tom Taylor, "Wittikind and his Brothers," has given employment to the artists, either scenic or otherwise, connected with this establishment, and of the opportunity they take good advantage. Whether we speak of the scenery—which speaks strongly of the master under whom Messrs. Lloyd and Gordon practised—or of the dresses, or of the general stage arrangement, our commendation may fairly be without qualification.

Royal Adelphi Theatre.—For a new romantic vaudeville, called *Mephistophiles*, successfully produced at this theatre on the 14th, an excellent set scene has been provided, most creditable to the artists. It represents an Italian ornamented garden with hedge-walls and terrace, and a view over the country, which includes a ruined bridge or aqueduct. The piece, although slight, gives Miss Woolgar an opportunity for the delineation of four distinct and contrasting characters, which this lady effects with most artist-like discrimination and skill.

Burford's Panorama of Salzburg.—Salzburg, in Austria, has all the materials for an interesting panorama, picturesque buildings of antiquity, a castle on a towering rock, a river, a varied and fertile plain, and a chain of mountains to surround and frame the picture. Out of these Mr. Burford, with his able assistant, Mr. Henry Selous, has produced a charming work, careful in detail and effective as a whole, and none of it more so than the little piece of suburb, Edmonsberg, immediately to the left on entering, where the long shadows on the grassy slopes, and the two or three simple tree-embosomed residences, are positively soothing to the mind, after Fleet-street and the Strand. St. Peter's Church is made to form a bold foreground object, and the castle, of course, occupies a prominent position. A lady who came in fresh from a dip into—the geographical dictionary, was delighted to find that Mozart's-square (the great composer was born in Salzburg, and has a statue) and the bridge over the Salzach, had not been forgotten, though the latter certainly does not look 400 feet long.

MIDDLE CLASS DWELLINGS.

A CORRESPONDENT asks us despairingly if the poor are to have *all* the "model" dwellings—"lodging houses" as they are commonly but incorrectly called. "Is there no plan or means of erecting large houses for married people of the middle classes?" he adds. We can only say, as we have frequently said, that not only are there plans of such houses—not quite "model" ones, to be sure—and means and ways of erecting them with every convenience, but that there are thousands of them in Edinburgh, and tens of thousands of them in Paris, already erected, and in fact for centuries inhabited. Houses that are planted side by side along a street pavement are not called "lodging-houses"—why should just such "houses" only planted one above another along a rising up-hill pavement of spacious day-lit steps, be degraded with a name which we do believe tends more than anything else to prejudice the minds of Londoners against such a compaction of "houses" so suitable to the occupation of the valuable spaces within their mighty city? The middle-class Londoner has an utterly erroneous notion of such "houses," and the model dwellings "for the poor," unfortunately, are not likely, excellent as they are in their sphere, to diminish his prejudice. In Paris, even the nobility inhabit such "houses," or "flats." The Londoner confounds them with floors in "lodging-houses," such as those of London itself—that mighty conglomeration of lodgers and of lodging-house keepers. They are no such thing. A middle-class Parisian or Edinburgher, accustomed to the *isolation*, the *independence*, ay, and the modest dignity of his up-hill "house" at home, finds it a nuisance of the most intolerable description to be obliged to *herd amongst* whole families of strangers, as he must do in London, unless his means enable him to occupy a tenement probably far too large for himself and family. And yet the middle-class Londoner erroneously and absurdly imagines that it is only in the London style that a man's "house" can be his "castle," and that though the middle-class dwelling of the Parisian or the Edinburgher may do very well for them, it does not suit his independent and dignified taste. Strange subversion of truth! The fact is precisely the reverse; and many a Frank and Scot, doubtless, heartily returns him the compliment by saying that the London higgledy-piggledy style of middle-class dwelling may do very well for a Londoner, but does not suit their more really dignified and independent taste. If any city in the world demands a thorough reform in this respect—a transfer from "lodging-house" to "house"—it is London. Its vast dimensions, the value of its building sites, its commerce, trade, and manufactures, all demand it; and the time has now arrived when the expansion and growth of this leviathan must be *upward* in place of *outward*—when "houses" must be reared above each other, with all their paraphernalia of pavements, landings, outer doors and inner, lobbies, kitchens, and closets, instead of straggling miles on miles farther and farther away from the centre.

BELFAST.

THE rapid increase of the sewed muslin trade bids fair to give a palatial character to the street architecture of Belfast, in consequence of the size and elegance of the new stores and warehouses connected with that business. In one new street alone there are recently completed two large stone-faced buildings. The larger, a muslin warehouse, is of three stories above the basement in height, in the Italian style, with a range of thirteen windows in the principal front, those of the top story arched; the whole crowned with a console cornice, on which the eaves of the roof rest. The two lower stories are rusticated, and the architrave of the door, which is in the middle of the principal front, supports a balcony to the window above, forming a pleasing feature in a design otherwise without pretension. The builder is Mr. Byrne.

The new Protestant church to be erected under the bequest of the late Mr. Hamilton, will shortly be put in hand. The design was offered in competition, Mr. McNeil being the successful competitor; but some misunderstanding seems to have arisen between the trustees under the will and the committee appointed to superintend the building of the church.

A new town-hall is proposed, a large model of which was for some time exhibited in the council-chamber of the present town-hall. It is in the Corinthian style; and at a first glance reminds the observer of the National Gallery—a central portico forming the grand entrance, right and left of which are loggia; and at the northern end is a circular porch or portico, similar to those attached to the transept of St. Paul's Cathedral. Mr. Hastings, town-surveyor, is the architect. The intended site is on the west bank of the Lagan, above Queen's-bridge.

The Harbour Corporation are about to erect new offices. The design selected is in the Italian style, having a campanile 80 feet high, intended to contain a public clock. The principal front will be 102 feet long, and will face the river, the site chosen being on the quay. The foundations of the new Presbyterian College are being prepared. The design, by Mr. Lanyon, is in the Roman-Doric style, the first being divided into three nearly equal parts, the centre having attached columns, with an entablature breaking over them, and an attic above. The students will attend the classes of Queen's College for the secular portion of their education, the new college being for the purpose of supplying a theological faculty in accordance with the doctrines of the Presbyterian church. A new school in connection with the Magdalene Asylum Church is also commenced: Mr. Lanyon supplies the designs. The school of Design in this town progresses satisfactorily according to our correspondent. The local committee are making great exertions to erect a gallery for casts and statues at the rear of the school. Subscriptions to a considerable amount have been already promised.

The second annual Exhibition of Modern Paintings is now open, and the numbers who avail themselves of the opportunity of admiring the productions of some of our first-rate artists are a gratifying proof of the increasing love of art now becoming developed so generally throughout the Kingdom.

Lord Belfast has just concluded a course of

lectures on the "Poets of Great Britain and Ireland," delivered at the Music Hall, in aid of the library of the Working Classes' Association.

The scientific world of Belfast are preparing themselves for the approaching meeting of the British Association. The loss of Mr. Wm. Thompson, the eminent naturalist, a native of and resident in the town, will be most severely felt upon the occasion. It is proposed to erect a memorial to him, in the form of an additional room in the Belfast Museum, to which institution he has bequeathed his collection, to be called the Thompson Gallery. Subscriptions are bountifully flowing in.

VALUATION OF DILAPIDATION.

HOLBROOKE *v.* PIGGOTT.

This action was brought at the Wandsworth County Court to recover 50*l.* on contract for dilapidations of a house leased to defendant. The chief feature was the wide estimates of the surveyors; plaintiff's surveyor estimating the damages at 62*l.* 2s. whilst defendant's surveyor cut it down to 5*l.* 19s. 6d. Evidence having been given as to the covenant which bound defendant to keep Holbrooke House, Richmond, in proper repair, and to deliver it up in the same condition as when entered upon, Plaintiff's counsel called Mr. J. W. Ellis. Witness said he was a surveyor, residing at Richmond. Had had much practice in the office of Messrs. Musgrove and Gadsden. Was instructed to make a specification of the dilapidations of Holbrooke House. His estimate was 62*l.* 2s. Is acquainted with leases and dilapidation clauses.

Cross-examined.—Messrs. Musgrove and Gadsden are general surveyors, and whilst with them went through many specifications. Am not properly entered into business on my own account. It is common in dilapidations to specify minutely. Observed a clause in the counterpart of the lease binding the tenant to paint the house externally every three years. For the external painting he allowed 15*l.* Saw Mr. Piggott upon this, and told him if he could satisfy me the house had been externally painted a deduction might be made; but it was apparent a portion only had been done. The roof was in a bad state; and being informed there was, some years since, an iron railing in front of the house, I allowed for that. I found some ivy growing over the walls, and as ivy harbours wet and damp, and causes premature decay, besides making houses uncomfortable, I charged for its removal.

Mr. Swift said the case rested upon the sole evidence of Mr. Ellis, who admits that he has not been in practice for himself, and all his experience in surveying was obtained in his articleship to a firm more in the light of house agents than surveyors: indeed he would be bound Messrs. Musgrove and Gadsden could not measure a rod of brickwork. He should be able to prove that so good a state was the house in, that Mr. Holbrooke offered to renew the lease upon advanced terms. After some remarks, Mr. Swift called Mr. Richard Brewer, who said, I am a surveyor at Richmond. I could not make dilapidations more than 5*l.* 19s. 6d. in all. Have not allowed anything for the door, because I consider it so great an improvement; but if it were put in its former place 2s. would pay for it. Never took, as Mr. Ellis has, sweeping chimnies for dilapidations in my life. Should think the external walls had been painted within three years, but it is difficult to say.

Cross-examined: Drew the plans for the new sessions-house. Am parish and road surveyor. Also contract to build houses myself. Made calculations irrespective of parties, and to the best of my experience and judgment.

Mr. Piggott said he was a valuer, and accompanied the last witness over the house. The damage he estimated amounted to 6*l.* 1s. 6d. Had taken the house of his father. The boundary wall belonged to the adjoining house. In 1849 his father paid 13*l.* 14s. for painting the house externally. The lease expired in June 1851. In all 124*l.* had been lately expended in improving and repairing the house, and considered it in such a good state of repair that it is impossible to find any fair dilapidations.

The Judge.—It appears to me (without for one moment asserting that either of the witnesses are actuated by motives to make their estimates high or low to suit their friends) that surveyors are as bad as advocates,—they will not see: they enlist themselves, and adopt the feelings of those who employ them. Years ago I presided at a Petty Sessions, where the question of being over-rated or low-rated was constantly before me. The parochial surveyors made their valuations as high as they could, and the appellant's surveyor's is, perhaps, as much too low as the other's is too high. I often wished surveyors would not have acted so unconscientiously. With regard to this case, it is quite out of the question I can decide to my own satisfaction or the public's. It is a pity the case had not been settled by arbitration, or I had the assistance of the jury. However, as it is my duty to give a verdict one way or the other, without any scale to go by, taking all discrepancies into consideration, I must give a verdict for the plaintiff; damages reduced to 20*l.* and costs.

THE USE OF GAS AS FUEL.

THE ATMOPYRE AND POLYTECHNIC FIRE.

I SINCERELY thank you for the independent notice, taken in a recent number of your paper, of my little contrivance, the "Atmopyre," and for the clear and effective explanation you have given of the plagiarism of it, now paraded under the title of "The British Polytechnic Fire," and perpetrated under circumstances incredibly shabby.

As you are interested in the efforts now making to introduce gaseous bodies having an affinity for oxygen, as substitutes for common fuel, may I trouble you with a few facts acquired during my experience of the last three years?

1st. I do not claim any credit for scientific profundity: my invention is merely a "happy thought," which may be improved, and subserve many useful purposes. When first the idea occurred to me of converting the gas-burner into an artificial cinder, or reservoir of heat, I tried a great variety of materials—iron, brass, copper, platinum, and clay, mixed with metallic oxides, or pounded porcelain and glass, or plaster of Paris, and other substances, in different proportions. The majority of these bodies were rejected, for sufficient reasons, after a long series of experiments, and the exact mixture of argillaceous materials which is described in my specifications was adopted.

Your suggestion of employing the enamelled iron, as a material for the "tongues of fire," occurred also to Mr. Baily, but it was found impracticable to preserve free the holes for the transmission of the gas.

In taking out the patent, I could have secured the exclusive right of making the artificial embers, or "hoods," of *any material*, but, under the advice of Professor Cowper and my patent agent, I merely guarded the argillaceous material. Had I taken a wider protection, it would have saved Messrs. Bachhoffner and Defries, and a few others, some expense and disappointment in the vain attempt to produce equal effects with the rejected substances.

More than two years' experience of the "hoods" at very high temperature has shown their perfect indestructibility. So well known is this property, that a gentleman in the Potteries, not aware that I had used these "burners," both for lighting and heating, has incurred the expense of a patent for making "argands," "fish-tails," and other known forms of gas-burners, of this identical material.

Each of the burners at present used is a small cylinder, of which the surface measures 5 square inches: it is perforated at equal distances with ninety holes, each the fiftieth part of an inch in diameter. By this arrangement, the flame, or "incandescent cone," is literally stretched out like an elastic body, and consequently the points of contact between the air and the gaseous fuel are multiplied, and the blue flame, affording evidence of perfect combustion and intense heat, is produced. If, however, the superficial burning surface were simply a horizontal plane, the supply of air would be insufficient to maintain so vivid a fire.

2. The fuel which I have commonly employed, and that only which can be practically relied upon, is the common carburetted hydrogen, or coal gas; but if the apertures in the "hoods" be made smaller, hydrogen gas may be burnt, and made to produce a brilliant semblance of a coal fire. Price is, however, here an insurmountable obstacle, as this fluid cannot be produced at a cost sufficiently cheap to be used generally, even for light.

M. Gillard, late secretary to M. Guizot, has patented an ingenious method of generating hydrogen by the decomposition of steam in its passage over red-hot charcoal; but, notwithstanding the most persevering canvass, and the possession of undoubted merit, he did not succeed in inducing capitalists to take up his scheme. He proposed to supply his gas to the public at the rate of 2s. the 1000 cubic feet, but the quantity required to be consumed in order to make his beautiful cylinder of filligree platinum sufficiently incandescent to give light, made it much more expensive than the common coal gas. The light was most beautiful, and almost as pure as that of the sun, but this merit could not prevail against its defective economy.

Dr. Dalton compiled a valuable table of the comparative heat-generating properties of fuels, estimated by weight. The relative power of hydrogen is represented by the figures 24,000, and that of coal gas by 6,300; but as the specific gravity of the latter is ten times as great as that of the former, it would require nearly three volumes of hydrogen to produce the same effect as the volume of coal gas.

I have been greatly interested in the application of hydrogen as fuel. This result can only be produced by the use of argillaceous burners as solid intermedia. Could the decomposition of water, by the use of zinc and sulphuric acid, be made a step in the process of manufacturing zinc paint, hydrogen could be supplied to the public at a moderate rate; and I have faith that this great boon will be secured before long, though certainly not by means of the Polytechnic process.

3. As gas of whatever kind must always be, when compared with coals, an expensive fuel, the idea of heating apartments by simple radiation from surfaces heated with gas, and arranged like our present open grates, is a perfect delusion. By such arrangements *ninety per cent.* of the heat is lost. The desired effect can only be realised by the joint effect of radiation and convexion. The fire must be carefully included in proper media, and every ray of caloric appropriated as far as possible by introducing currents of pure air in contact with the heated sides of the stoves.

To procure a substance fitted to secure all the effects desired by the use of these vessels has proved a real labour. No known substance had the property of resisting the necessary variability of temperature without contaminating the purity of the air. This desideratum has, however, been found in an argillaceous mixture, which will bear to be heated to redness, and against which currents of air impinging in great quantity, but only for a moment, become warmed to bloodheat, and afterwards circulate in apartments without losing any of their virgin qualities. In fact, Mr. Copeland's beautiful porcelain stoves are now in successful operation in bed-rooms and other apartments having proper flues.

4. The application of the atmopyric stoves in small collateral rooms without flues has been a matter of difficulty, owing to the disinclination of the products of combustion to ascend in cold metallic tubes; but Mr. Henry Baily, by a philosophic contrivance, has succeeded in securing the escape of the vapour under all circumstances.

5. The main advantage belonging to the atmopyric principle is the solid medium it affords for the accumulation of heat; the sides of the "hoods" being made of any thickness, and heaps of fictile fragments placed in juxtaposition. Hence a mass of solid fire is produced, which possesses a sharpness indispensable in many culinary operations; and that may be made to *cumulate* to an intensity sufficient to smelt the precious metals.

This is an effect which it is obvious thin leaves of platinum can never produce.

6. The atmopyre is now applied to the generation of steam: a foot of gas will evaporate a pound of water. Consequently, sixty feet of gas consumed will equal a horse power. The expense is absolutely greater than that of coal, but when the collateral saving of labour is considered, the great levity of the gas, and its elasticity which enables it to be compressed into one-fortieth part of its bulk, its eligibility for small stationary engines, for locomotives, and small low pressure boats, is not "the mere baseless fabric of a vision."

7. Although a long time must elapse before our coal fires can be superseded as the general source of heat in our sitting-rooms, I do not doubt that for occasional fires in bed-rooms, libraries, offices, &c. gas will come into immediate use.

D. O. EDWARDS.

THE HISTORY OF TOOLS.

PROFESSOR WILLIS'S lecture at the Society of Arts, Jan. 28 last, has brought to light several errors in my statements inserted in *The Builder*, of 23rd March, 1850, as respecting the block machinery at Portsmouth. Those errors arose from my having confined myself to official documents, instead of having consulted also General Bentham's patents, and from a determination to give the late Sir Isambard Brunel the credit of every part of that machinery which the documents before me did not prove to have been the inventions of others. I now subjoin corrections of my former paper, trusting that you will kindly give them place in some early number of your valuable publication.

First, as to the circular saw. I had given the invention of this useful tool to the Messrs. Taylor. Professor Willis says, "Where, or by whom, the woodcutters' saw was put into the form of a rotating disk has not been recorded." This point may be considered as having been cleared up by Mr. George Smart in the year 1813, but in evidence that is little known of. It was before arbitrators appointed in conformity to an Act of Parliament, 20th April, 1812. Mr. Smart deposed to these arbitrators as follows:—"He conceived he had the first circular saw that was made from a Mr. Mainwaring, from whom he purchased it about thirty-four years ago." (About the year 1779.) Mr. Smart added that he never used the circular saw till he heard of its improvements by General Bentham. Some of these improvements were particularised in the above-mentioned number of *The Builder*.

As to the first operations, those of cutting out the wood from the rough logs, and further preparing it of proper scantlings and lengths for the shells of blocks, it was already stated in my former communication, that they were all performed by machines of Bentham's invention.

Article 2 of my paper stated that Mr. Brunel had probably made some alterations in Bentham's boring-machine to suit it particularly to the boring of block-shells; but Professor Willis pointed out that "the same specification (that of Bentham's patent, 1793) describes boring-machines, some of which are similar in their arrangements to those of the block series." Thus it appears that Brunel did no more than select that engine of Bentham's which was the most suitable for boring block-shells.

Article 3,—to Mortise.—Professor Willis says, in regard to the machine for performing this operation, "Thus the self-acting mortising-machine is distinctly described in Bentham's specification of 1793, so completely as to entitle him to full credit for the invention of mortising-machines, whether by the process of boring a hole first, and then elongating it by a chisel travelling up and down vertically, or by the process of causing the hole to be elongated by the rotation of the boring bit during the travelling of the work."

Article 4,—cutting off Corners.—Has already stated this engine to have been Bentham's.

Article 5,—to Shape.—In the former communication credit was given to Brunel for the invention of the machine which performs this operation, and it was spoken of as being "amongst the most important of his contrivances;" but Professor Willis, in addition to his other observations on Bentham's patent, adds that it specifies "also the tubular gauge which is employed in the shaping-machine."

Articles 2 and 3, under the head of—Shieves, to bore and round, and to prepare for work.—The Professor, in addition to other observations on the tubular gauge of Bentham, says it is employed for "the formation of recesses by a revolving and travelling tool for the embedding of the works." The crown saw is distinctly specified in Bentham's patent, for he says of the tubular gauge, "It may be necessary that the stem should be an entire tube," and that "instead of a cutter or cutters, the end of the tube itself may be cut into teeth like a saw." Thus it is evident that the machines were of Bentham's invention, by which were performed the second and third operations in making sheaves.

Without entering further into particulars, it may be said that the modes of operating in drilling for rivets and broaching for pins, may also be found in Bentham's specifications. These specifications were given in full in the "Repertory," vols. 5 and 10, and may be worth the study of persons having in view the application of machinery to the working not only of wood, but also metals and materials of all kinds that are neither plastic nor fusible, nor requiring to be further wrought after having been moulded or cast.

Professor Willis assigns to Brunel "the merit of completing and organising a system of machine-tools so connected in series that each in turn should take up the work from a previous one, and carry it on another step towards completion." The Professor could not have been aware that the arrangement of the block-machinery was as to that sequence also Bentham's, for it is only in long-forgotten official documents that this was from the first provided for. When Bentham, in his official letter to the Secretary of the Admiralty, 15th April, 1802, recommended the adoption of Mr. Brunel's proposal for making the shells of blocks by machinery, Bentham advised it as to be "a *part* of the system of machinery to be worked by the steam-engine already provided in Portsmouth dockyard," and that "Mr. Brunel should be directed to *concert with the machinist in my office* respecting the best mode of fitting up the different engines and apparatus which may appear requisite for the manufacture of the different sorts and sizes of blocks, so that this apparatus should combine with the other machinery already provided, or which it may seem advisable to erect in that dockyard." Admiralty orders were given in conformity to that recommendation; and it was under Bentham's direction and superintendence that the details of the arrangement of the block-machinery were contrived, either at his office in town or at Portsmouth, and in conformity to his determination as officially stated, "that the block-machinery should be placed to the best advantage in point of appearance as well as use."

M. S. B.

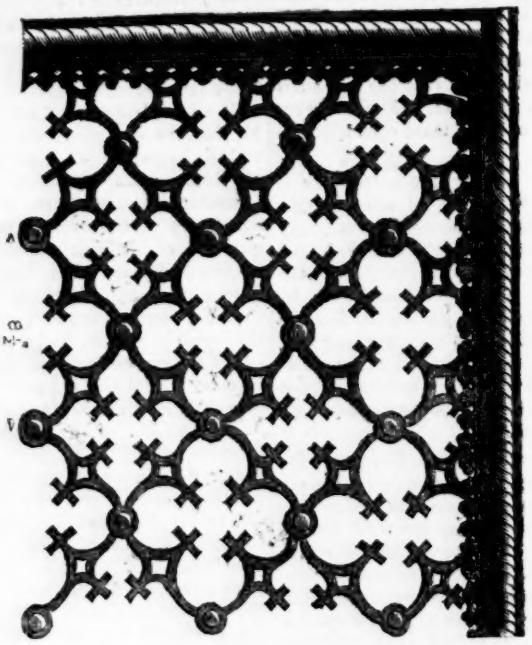
FOREIGN ARCHITECTURAL AND ARTISTICAL INTELLIGENCE.

M. Landry's Ville Modèle, and other recent Architectural Plans at Paris.—This architect is not content with the plans of new palaces, temples, and theatres, or a new system of architecture; he attempts the systematization of whole towns—*villes modèle*. According to M. Landry, the present towns are but the effect of chance—*villes hasards*; first formed by the fortuitous grouping of some huts on a river bank, successively extended and enlarged according to some other equally fortuitous and arbitrary accident or whim of circumstances. Unfortunately, these monitors have never been thought of being improved and systematised, but until they have acquired their perfect growth. What expense and pains are thus required for opening across these masses of construction, soldered to each other, some new passage and line of street, converting our cities for some more or less time into a heap of ruins? To what exorbitant sum (concludes M. Landry) will not the mere *allignement* of the city of Paris come, if it be ever accomplished? And why should man not employ his *logic* in the formation of new towns, on those many fine spaces where they are now erecting? Why should the same synthesis of thought not be applied to the ulterior development of villages, likely to become townships, and townships which will very likely once become great towns. Mankind, which has so long lived *at hazard*, feels now the necessity of applying reason and system towards the regularisation of its vast *domaine*, and to economise its forms and power, hitherto so egregiously squandered away. Under this point of view, also, the architectural fixation of the *town-idea* is most desirable. "A logically erected town would be by far cheaper than one built on the principle of ancient error." The programme of M. Landry comprises air and sun for all, sights, hygieistic regulations, highest value of land, with a minimum distance, &c. Whether this new system should be based on the figure of the triangle or the square, is a question of difficult solution. Besides these studies and plans of M. Landry, M. Constant Dupin, who had won the first architectural prize for Rome, has made the plan of a *hôtel des invalides civiles*, to be constructed on the site of the ancient park of Montrouge. Messrs. Godebœuf and Gallard have treated the same ideas relative to a house of retreat for the invalids and old of the industrial classes. M. Jumelin has made the plan for a granary, to preserve grain for an indefinite time by appropriating to our climate the system of *silos*.

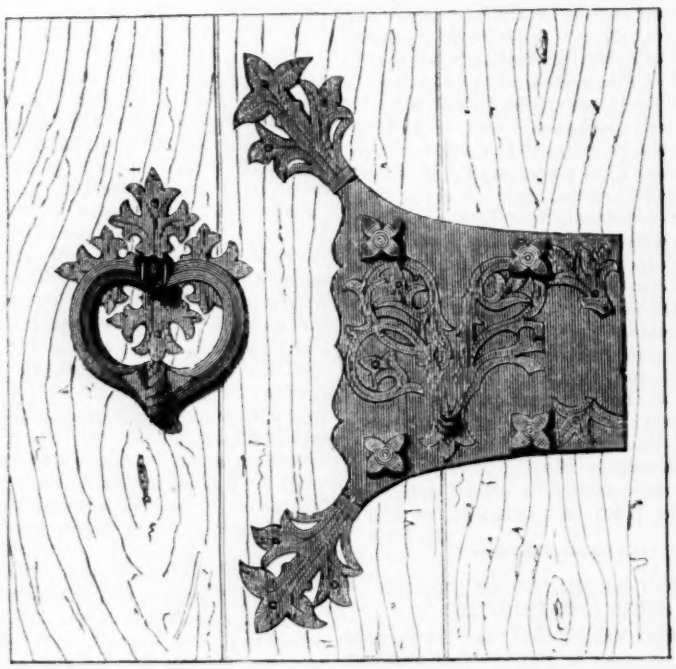
The Raphael and Michelangelo Designs of the Town-Museum of Lille.—It was a fortunate occurrence for the above establishment, that the painter, M. Wicar, one of the members of the Art-Commission sent by the Emperor Napoleon to Italy, was a native of Lille. At his demise, he bequeathed to that city, what may be called rather a museum than a collection of original designs, collected by him in that country. This set of drawings contains 1,200 specimens, viz.: 86 Raphaels, 197 Michelangelos, 6 Andrea del Sarto, 9 Bandinellis, 1 Jean Bellini, 8 Annibal Carracis, 2 Corregios, 17 Carlo Dolcis, 10 Fra Bartolomeos, 15 Francias, 6 Guercinos, 8 Guido Renis, 5 Ghirlandaios, 3 Julio Romanos, 5 Leonardo da Vincis, 13 Masaccios, 1 Pahma Vechio, 5 Parmesanos, 1 Paul Veronese, 1 Perugino, 6 Poussins, 2 Tintorettos, 8 Titians, 2 Albert Durers, 3 Lucas de Leydens, 1 Rembrandt &c.—a collection unmatched, as the circumstances under which it was made will not occur again. Amongst the finest of the fine are the first pen and ink sketches of the Madonna della Sedia, by Raphael, as well as the Madonnas della Casa d'Alba, and de la Perla; the sketches for the frescos, the School of Athens, the Parnasse and the Zodiac. We find of the same master the original sketch of the St. Nicola di Tolentino, a picture which was subsequently made by Raphael for the Augustine Church of Civita di Castello. Most interesting is another sketch on a sheet of paper, on the rear of which is an autograph letter addressed by Raphael to his friend Dominico Paris Alfari, a painter of Peruggia, and in which he requests him to execute it on canvass. Astounding is a collection of 200 leaves from the architectural *cahiers* of Michelangelo; further, a drawing of the cupola of St. Peter's of Rome, a sketch of the Prometheus, and the sketches for his "Last Judgment." Other great curiosities of this collection are a first sketch of the picture, "La Continence de Scipion," by Julio Romano, showing the figures in their naked position, which were subsequently covered with drapery. Of Leonardo da Vinci are some studies in pen and ink and watercolour, of an extreme fineness and delicacy of touch. The most extraordinary, however, because unique specimen of the collection Wicar at Lille, is the bust of a young woman, modelled in wax and coloured. Its appearance is described as bewitching and surprising, and thence and from the rich sources which M. W. seems to have possessed, it has been generally ascribed to Raphael—as only he has portrayed figures intermediate between earth and heaven, the woman and the angel. It is further conjectured, that as the Romans, in the times of the emperors, were in the habit of exhibiting in the vestibule of their palaces during their festivals wax busts of their ancestors, so Raphael might have thought of imitating this custom in modelling the head of this Roman patrician of his time.

A NEW BRIDGE is to be built at Tallanstown, in the Glyde drainage district, by the Commissioners of Public Works.

IRON SCREEN, PERUGIA.



IRONWORK, COLOGNE.



IRON SCREEN, PERUGIA.

THE portion of an iron screen which we have thought worth engraving forms part of the inclosure of one of the chapels in the cathedral at Perugia. This building dates from the end of the fifteenth century; and the parts of the interior that have not been modernized present a bold example of Italian Gothic. The chapel which this screen encloses appears to be of a date not much later than that of the building itself, and has escaped alteration.

C. F.

IRONWORK, COLOGNE.

THE annexed is a sketch of a piece of iron-work (one-fourth real size) I found upon an old door preserved in the model-room of the workshops of Cologne Cathedral, which, although imperfect, is a good specimen of workmanship, and may interest some of your numerous readers.

R.

ARTIFICIAL STONE AND GLASS.—Mr. W. Hodge, of St. Austell, has patented the application of hornstone porphyry, otherwise called elvan or freestone, to the manufacture of glass, china, porcelain, earthenware, and artificial stone.

MODERATION IN CRITICISM.

I CANNOT help testifying to you my thorough concordance with your views dropped in the note to "Fid. Def.'s" answerer. If it had been a question about the reconstructing of Westminster-bridge, or the building of some great edifice, there could not have been more spleen and ill-nature unbottled than there has been between your two touchy correspondents. What strange creatures we architects must have become lately. A man cannot even express his own ideas about a subject (and that subject so humble a one as a guide-book), without doing it in such a manner as if he expected a tiger to answer his remarks. And lo! there *is* a tiger to be found to take up the case, to put on the disagreeable, the unkind, the uncharitable, to call names, and get angry, and to deal out to a fellow-creature every thing he can call to his mind that is satirical and ungentlemanly. Is it to be said, then, that we are totally callous to all milder modes of correction, but that of the bullying caste, or are we totally innocent of any knowledge of *the very bond of peace*. Is there no mode of expressing sentiments on any topic but that which calls forth the reproaches of satirical minds? I rather suspect, sir, that your correspondents aim at *criticism*. If so, I would give them this short hint,—That criticism does not consist in pulling people to pieces in a narrow-minded manner for the sake merely of being contrary. *True* criticism is a noble feeling—a noble desire. It corrects with circumspection, it acknowledges the grand and the beautiful, and if faults should appear (and they ever will do so), I say it remonstrates with charity, and points out the *true* path. There is nothing noble, nothing handsome, in that underhand kind of bullying us out of our faults, which, if it *should* call forth a "second edition," is ten times more violent than the former; thus doing no good, and only spreading dissentient feelings and animosity amongst its participators.

C. R.

PRESERVATION OF OUR ANCIENT MONUMENTS.

As to the restoration of monuments, I would mention two circumstances, to show how ineffectual all such endeavours would be until we have the arts (mechanical), forming the basis of education of all in this manufacturing nation, and the arts (ideal) upon that, operating in the middle and higher classes of society.

While obtaining a knowledge of costume for painting, and with that object devoting my study to antiquities, I made a drawing of the tomb of Bishop Stafford, in Exeter Cathedral, published in Lysons' "Magna Britannia," under "Devonshire," which tomb was beautifully executed in alabaster. That was in 1821, since which the canopy surmounting the effigy—an exquisite specimen of Gothic work of the period—had been, at considerable expense, *restored*; but when I saw it, in 1849, *it had been again maliciously* as much injured as before.

The effigies of Henry II. and his Queen, Richard I. and his Queen, and the wife of King John, Isabelle de Angoulême, I have long wished to see deposited in Westminster Abbey, since my late brother discovered and released them from imminent peril, at Fontevrond, in Normandy. He, during his life, made an effort to obtain them for the nation, but a diplomatic channel was not the mode to effect that object. It must be gained through a private and friendly channel.

When we see, as in Earl's Colne, Essex, the monuments taken from the church by the rector, and given to his brother, the doctor, and by him distributed about his premises (a modern residence, called, or mistakenly so, the Priory), and these the effigies of the Earls of Essex, it is evident that the true feeling (without the arts participating in the construction of mind to produce their relish for antiquity) is a mere love of £. s. d.

ROBERT T. STOTHARD.

A PROBABLE CAUSE OF BOILER EXPLOSIONS.—M. Boutigny d'Evreux delivered a lecture lately, at the Royal Institution, on the spheroidal condition assumed by fluids on the application of a certain amount of heat. In addition to the numerous experiments with which this subject is usually illustrated, M. Boutigny showed a probable cause of explosions of steam-engine boilers. Taking a silver bottle or flask with a wide mouth, he heated it glowing hot, and whilst in this condition threw into it a few drops of water, which, immediately assuming the spheroidal condition, remained at an appreciable distance from the sides of the vessel, and, therefore, could not become heated. Whilst in this condition M. Boutigny corked the flask, and removed the source of heat, when the silver vessel gradually cooling, the water came to some extent in contact with it, burst into steam, and forced out the cork with a loud explosion. With regard to the cause operating to prevent contact between liquids and heated solids, M. Boutigny believes it to be due to the *repulsive* force of heat itself.

KENNINGTON COMMON.—A Bill lately published is to empower the Commissioners of Works and Public Buildings to enclose and lay out Kennington Common as pleasure-grounds for the recreation of the public.

WHITE'S CLUB-HOUSE, ST. JAMES'S-STREET, AS ALTERED *

Mr. LOCKYER, Architect.

LONDON BRIDGES.

Old London-bridge was the only bridge across the Thames in London for a period extending to nearly six centuries, being commenced about the year 1176, under the superintendence of Peter of Colechurch. Westminster, which was the next, was commenced in 1739.

After the opening of Westminster-bridge, an Act of Parliament was obtained to remove the houses (which were of wood, and frequently taking fire), erected upon London-bridge, and which was also widened and improved; nevertheless, it was perpetually requiring repairs. Still, from the attachment and antiquarian veneration which old eventful associations had created, it remained till 1831, and now there is scarcely a landmark left by which the position where it stood is indicated. The present structure was commenced under the late Mr. Rennie, assisted by Sir J. Rennie, in 1824, and opened in 1831, with great pomp and ceremony, by the late King William IV.

As to Southwark, Blackfriars, and Waterloo bridges;—the first, a fine structure of cast-iron, was also erected under Mr. Rennie,—commenced in 1815, was opened in 1819. The second, of Portland-stone, was begun in 1760 and finished about 1770, under Mr. Mylne; and the third, a noble structure of Cornish granite, was commenced under Rennie in 1811, and finished in 1817. This bridge affords as fine a promenade of the kind as can be had in the heart of London; the pedestrian is able to walk free from the inconveniences attending thronged thoroughfares, and enjoy the fine perspective view of London, which, by the sharp turn of river, here meets the eye.

The noble river front of Somerset-house is close by the bridge: the dome of St. Paul's does not appear so vast as from Blackfriars-bridge, but the distance, which somewhat diminishes the idea of the size, "lends enchantment to the view." It is pleasant, on the close of a sultry day, to escape to Waterloo-bridge from the heated pavement of Fleet-street and the Strand: it is then that the nervous or impatient man, panting for a breath of air, and who fancies that the very noise of the streets aggravates all his uncomfortable sensations, will doubly enjoy the breeze that ripples the surface of the river, and likewise in marking how the setting sun touches both dome, tower, and pinnacle with its varied hues. Here, too, will be felt in the calm of a summer morning the force of Wordsworth's exquisite lines:—

"Earth has not any thing to show more fair:
Dull would he be of soul who could pass by
A sight so touching in its majesty:
This city now doth like a garment wear
The beauty of the morning; silent, bare,
Ships, towers, domes, theatres, and temples lie
Open unto the fields and to the sky."

G. J. R.

* See p. 241.

THE HANGING OF CHURCH BELLS.

My attention has just been called to an article on "Church Bell Hanging and Ringing," in No. 472, p. 124, of your interesting periodical. Without wishing in any unkind spirit to detract from the merit of what is there brought forward, I would beg leave to observe, that in the description of the parts of the hanging of a bell, one most important portion of the gear has been omitted, namely, the FILLET, or point where the rope is, as it were, fastened to the wheel. Without attention to that no bell can be rung; by *it*, the ringer is enabled to set the bell *at hand* and back—or fore stroke and back stroke.

The fillet is generally fixed about 60° below the top of the wheel (I have met with some not lower than 30°, and some even at 90°). It is also called the roller, and is fixed by a nut and pin passing through it between the sides or *shrouding* of the wheel, right across the groove. Under this, the rope passes, being tied to the upper part of the wheel, and the effect is to make *that* the FIXED point of the rope, and in ringing, the rope there doubles quite back at every fore stroke, and it is *there* where a rope first gives way. Sometimes the same effect is produced by a hole made in the sole of the wheel, through which the rope is passed, and fastened to the upright arms, and in this way, perhaps, the rope will last a little longer.

This *fixed point* for the rope was introduced with the *whole* wheel; for in the half-wheel the rope is fastened and fixed at the top; and so the ringer is not able to catch the rope up into a loop at the sally, but the rope as it comes down during the revolution of the bell, runs along on the ringing floor, being held only at the end; and so the ringer, having no other power over it, cannot set the bell each way, and, consequently, no peal of changes could be rung with the half wheel.

It is a great desideratum in campanalogical history to ascertain when and by whom the present beautifully framed whole wheel was introduced. The half wheel may still be met with in retired villages, and is still very common in Dorsetshire.

Your writer "Campanalogia," in describing the mode of ringing, says, that after a certain time, and the bell is put in motion, the "end of the rope is a little above his head;" but he says nothing how the ringer must *then* with one hand *catch* the sally, and then apply his strength, gently at first, but increasingly with each pull,—and at the next moment his two hands must be shifted to the end of the rope,—and so, by and by, when the bell is about stock level, he must catch the sally with both hands, and so, *toties quoties*, continue to pull as the bell is swung round,—pulling at every revolution the bell makes; at one time having hold of the rope at the end, both hands being raised above his head; and the next pull, when the rope comes down, and he catches it at the sally in a loop at the level of his face. All this cannot but appear difficult to understand from any written explanation, though it is quite simple in operation.

"Campanalogia" lays great stress on the *stay* and *slide*. Though appendages to the gear, they are not at all *necessary*, being added merely for easement and safety. There are many peals in stingy parishes without them. I have myself often rung in a peal of eight, where there was not a bell that had a stay, and the ringer is easily enabled to set his bell by that sleight of hand which practice alone can produce. There is another mode for effecting the same purpose as the stay, viz. an iron catch, projecting only a few inches above the stock, and which strikes every time against a projecting slide in the frame. This may be seen in the clumsy bell-wheel and gear figured in No. 58 of Parish Choir, page 145, from a bell at Wimborne, which is said to have been selected as a good specimen, though the bell has all its cannons broken off!

A few words more, if you please, about chiming. "Campanalogia," seems to imply that in chiming, the clapper strikes first one side of a bell, and then the other side; but that is not so. In chiming the clapper strikes only on *one* side, and it does so in this way:—The bell is pulled down till the clapper strikes the side, and rebounds; but if the bell is held down, by a very slight pull the clapper strikes again and rebounds, and so it may be continued. And by thus holding the bell tight down, a very slight motion is sufficient for the purpose. Sometimes the chimer, to ease himself, will tie the rope down to a ring in the floor, so as to keep the side of the bell within an inch or two of the clapper, which answers the same as holding it down, and is a great relief to the arms.

I beg to annex sketches of bell wheels, which I made many years ago, which may serve to make my bell dodges more intelligible.

H. T. E.

PEEL STATUES FOR MANCHESTER AND SALFORD.

MR. CALDER MARSHALL, R.A. has completed in plaster his statue of Sir Robert Peel, for the monument at Manchester. The figure is 9 feet high, and is attired in ordinary costume, with a cloak over one shoulder. His left hand is on his hip, and his right holds a scroll. It is to be cast in bronze by Mr. Robertson, of Pimlico. A sitting figure on either side of the pedestal, Commerce and Science, also in bronze, will redeem the monument, when completed, from the similarity which will characterise the majority. The pedestal will be of granite. The monument will stand at the *corner* of the open space in front of the Infirmary, looking down Market-street.

Mr. Noble's statue, intended for Salford, has been cast by Messrs. Moore and Co.: this is 10 feet 6 inches high, and was cast in two pieces: the weight about one ton. In this, too, the modern dress is relieved by a cloak over one shoulder. Some books are introduced on the ground to give support. The traditions of the statesman and the requirements of the committees will render the various monuments so much alike, that they might as well have obtained one first-rate statue, and electrotyped it for the different towns; by which means they might perhaps have managed to have put a little art and novelty into the pedestals.

"THE ORIGINATOR OF ELECTROTYPE."

WE have had several communications on this subject since our remarks on Mr. Dircks's pamphlet on it appeared in our pages. One of these is from Mr. Dircks himself, in which he complains that a portion of these remarks is calculated to convey an erroneous impression of his "Pamphlet on the Origin of Electro-metallurgy *in this Country*," as "it has never been doubted that Professor Jacobi, of St. Petersburgh, is *the* inventor of the Electrotype or Galvano-plastics." Now it appears to us that it is the public and ourselves who have reason to complain of an "erroneous impression," not Mr. Dircks. His pamphlet not only treats of the origin of electrotype under the leading title of "Jordantype," but it does not contain one word restrictive of its purposes to "this country." Moreover, even Mr. Dircks himself now further weakens Mr. Jordan's claim to be the "inventor" of electrotype, and still further complicates the question of origination, by acknowledging that "Mr. De la Rue describes, in the Philosophical Magazine of 1836, results precisely those belonging to electro-metallurgy." Was not this a publication precedent to either Mr. Jordan's, Mr. Spencer's, or Professor Jacobi's? Even on his own showing, then, Mr. Dircks cannot claim for Mr. Jordan the exclusive title to be *the* originator, *the* discoverer, or "*the* inventor of electro-metallurgy." As to Mr. Spencer's claims, we are not upholding them any more than Mr. Jordan's to such a title; and as to what constitutes "a publication," in the eye of the law at least, we know that in patent cases there is no very definite, strict, or settled idea. But we do think that neither the merits of Mr. Jordan nor of Mr. Spencer, as originators of electrotype, ought to be restricted to the question of prior "publication:" indeed, they are both of them superseded altogether under such a restriction by the prior claims of Jacobi; and it now appears that Jacobi's own are superseded by those of De la Rue. But more than all this, as if Mr. Dircks were much more bent on destroying the claims of his old associate, Mr. Spencer, than on establishing those of Mr. Jordan, which he discovered in the Mechanics' Magazine, he now declares it to be "the only fair conclusion we can come to," that "Professor Daniells discovered the principle of electro-metallurgy;" and that "Professor Jacobi in Russia, and Mr. J. C. Jordan in England, invented the art of galvano-plastics, which Mr. T. Spencer and others have successively improved." Another correspondent, too, Mr. C. F. Oldfield, advocates Professor Daniells' claims as *unconsciously* "*the* originator of electro-type." Do not all these conflicting claims and counter claims only prove the truth of our remark, that no one man is fully entitled to claim the merit of being *the* originator of the electro-type—even in this country? To get for it the name "Jordantype" now, even though Mr. Jordan's claim to such an *exclusive* honour were generally admitted, is impracticable; but, even on the showing of his own advocate, it is more than impracticable,—it is unmerited.

THE ORIGIN OF THE DORIC CAPITAL.

[AT page 13 of the second edition of Mr. Leeds' "Elementary Treatise on the Orders," there is what some will perhaps consider a very *saucy* note, since it points out the strong, and it would seem hitherto unsuspected, resemblance which the Doric capital bears—oh, horrible!—to what, familiar and undignified as it is, has suggested the following *iæsetion* in rhyme.]

LIST, gentles, unto a tradition historic,
Which tells how was formed the order called Doric.
Vitruvius, confound him, says nought of the matter,
Though about the Ionic he makes such a clatter;
And would have us believe—truly whimsical prig!—
Its volutes were shaped after a lady's curled wig.

Jove once gave a snug party,
Less solemn than hearty,
At which Hebe most gracefully poured out the tea,
Though I know not if 'twas or souchong or bohea,
But only that all were in merriest glee.
E'en Minerva herself laid aside her *blue* airs,
And with drollest of winks and the funniest of stares,
Cried, "A *capital* thought has come into my head,
A better was never there hatched or bred:
I'm sure you'll all say 'tis exceedingly bright.
You must know, then, my temple, the Parthenon hight,
Has just been begun; but the architect sticks,
Because on the capitals' form he can't fix.
An idea he wants, and I've one for him here,
Which that 'twill displease you, I don't at all fear."
So, she took up a thick slice of cake, and then cut it
Quite square and quite smooth, and afterwards put it
Down flat on her saucer, and gave them a tap,
Saying, "Does it not make, 'faith, a capital cap?
Saucer shall be *echinus*, from *china*, you know,
And cake, 'cause from *bakehouse*, to *a'ba'cus* grow.
Fine words with most people prodigiously take,
Though they'd turn up their noses at 'saucer' and 'cake!'
Such shall therefore the shape of the capitals be,—
A most clever idea, as all will agree;
Though dull mortals below there will never divine
They were fashioned after this whimsy of mine."

Now, gentles, perhaps you will cry out, "Good gracious!
This rhymer is surely a chap most audacious,
To try to pass on us such fudge as veracious!"
Still, my legend is such that you ought to receive it;
But, zounds! if you won't, why you may—*disbelieve it!*

Q.

SOMERSETSHIRE ARCHÆOLOGICAL SOCIETY.—On Friday evening, the 2nd instant, this society held a *conversazione* at the Museum. The Rev. W. R. Crotch commenced by reading a paper on Egyptian hieroglyphics, &c. which was illustrated by several drawings. The Rev. Frank Warre concluded his series of sketches of our forefathers and their places of residence, which was interspersed with anecdotes of their social condition. Mr. Warre alluded in this paper (as it bore immediately on mediæval buildings), to the many beautiful remains of the manorial residences of Somersetshire, and enumerated Halsway Court, near Crowcombe, which was a hunting seat of Cardinal Beaufort, and is now a picturesque frontage backed by the swelling sides of the Quantock; also, Barrington Court, a magnificent pile; Lyles Carey, near Somerton; and an old manor-house of the Daubeney family, at South Petherton, commonly called "King Ina's Palace."

Notices of Books.

A New Universal Etymological, Technological, and Pronouncing Dictionary of the English Language, embracing all the Terms used in Arts, Science, and Literature. In 2 vols. By JOHN CRAIG, Esq. F.G.S. London: George Routledge and Co. Farringdon-street. 1852.

THE publication of a General Dictionary which should embrace the additions made to our language by the progress of literature and science, with a correction of existing discrepancies, up to the present time, has long been a desideratum. This is now supplied by Mr. John Craig, F.G.S. Lecturer on Geology in Anderson's University, Glasgow, with very great success. As the author remarks, independently of the advantage which this work has over others in price—

"One of them does not give the derivation of the words, another does not give the pronunciation. In the Universal Dictionary, both the etymology and the pronunciation of the words are given. It also possesses the advantage of containing a vast mass of important information connected with natural history and science, not to be found in any other. Another feature which distinguishes it, is the illustrating of terms which have become obsolete, by quotations from old standard authors, whereby the works of these authors can be more fully understood and appreciated. The names of persons and of places have been purposely excluded, because it was impossible to embrace biography and geography without either rendering the work too large and expensive, to be accessible to the great mass of readers, or so abridging the other definitions as to destroy the completeness and utility of the publication."

The work presents a copious, if not a complete, Dictionary of Law Terms and Phrases, as defined by the highest law authorities.—All the terms used in Medical Science, in this and the other countries of Europe, are explained.—In Botany, it embraces all the genera in Don's great work and Loudon's Encyclopædia; and the orders, as given by Lindley, in his "Vegetable Kingdom," are fully described. As a Dictionary of Mechanics and Commerce, it will be found eminently useful to the intelligent operative, the engineer, clerk, or shopkeeper. In Zoology, all the classes, orders, and genera, given by Cuvier, Swainson, Gray, and others; and in Geology, Conchology, Ichthyology, and Mammalogy, describing all the terms there employed. In its orthoepy it seems to us it is weakest. There is merely a transcript under the head of "Key to the Pronunciation and the Vowel Sounds, with their French Equivalents" of "A Table of the Simple and Diphthongal Vowels," as used by Walker, which in that author is repeated at the head of each page, with figured references, offering great assistance to the student; but as to its application here, there is, in no shape, any allusion made, nor do we think, had there been, it would have offered any key to the rendering, for example, of the three words, "amateur," "connoisseur," and "restaurateur;" the first described by Mr. Craig, "ă-ma-*tare!*" the other as "ko-ne-*seur!*" and the last as "res-to-ra-*ture*." We call the attention of the author to this point for future consideration.

It is a very useful habit for members of a family to fall into to call for the "dictionary," when there is any doubt expressed as to the meaning of a word, its spelling, derivation, or so forth. There should be no family without one, and this is just the work they should obtain. It is dedicated to Charles Knight and Robert Chambers.

Collectanea Antiqua; Vol. II. Part IX. Etchings of Ancient Remains, Illustrative of the Habits, Customs, and History of past Ages. By C. Roach Smith, F.S.A. &c. J. Russell Smith, Soho-square. 1852.

THIS part concludes the second volume of Mr. Roach Smith's interesting collections illustrative of past times. It shows what would surprise some of our lady friends, examples of pendant girdle ornaments, very analogous to the modern absurdity, invented to tempt pick-pockets, called a *châtelaine*. In the preface the writer reproaches the city authorities for not purchasing Mr. John Newman's collection of antiquities found in London. Concerning the recent investigation as to the state of the royal monuments in Westminster Abbey, he says,—

"At a recent meeting of the Society of Antiquaries it was stated that a member of an architectural society was striving to induce his colleagues to petition the Government to consider the ruinous and neglected state of the royal tombs in Westminster Abbey. The announcement excited very little attention or sympathy. Indeed, it seems that none of the numerous antiquarian, archæological, and architectural societies have co-operated to remonstrate against the disgraceful state of the tombs in question; neither have they evinced the slightest interest in the matter. But were they consistently active, zealous, and united, it does not appear why the monuments in Westminster Abbey should be singled out for the special protection of Parliament, when so many of various classes and of different epochs, having equal claims to consideration, are even much more exposed to decay and Vandalism. A Parliamentary investigation of the whole of our ancient national monuments is required, not a partial protection, extorted for some which happen to be more conspicuous, and therefore more fashionably popular than others."

Cyclopædia of Useful Arts—Mechanical and Chemical—Manufactures, Mining, and Engineering. Edited by CHARLES TOMLINSON. Illustrated by several hundred Engravings. George Virtue, London and New York. Parts 8 to 12 inclusive.

OF this work we have more than once had occasion to speak. We are glad to see it continue to sustain the good opinion we have had of it. Among the subjects more likely to interest our professional readers in the parts now under notice will be found casting and founding, chimney, coal, copper, couplings, cranes, drainage, dredging, drilling, elasticity, &c.

Miscellanea.

PROFITS OF GAS AT MANCHESTER.—At a recent meeting of the gas committee of the corporation who themselves supply the town with gas, it was stated that notwithstanding the reduction in the price, the profits have gradually increased, and during the past year they amounted to no less than 37,399*l.* Within the last seven years the production of gas has increased from 305,000,000 to 510,000,000 cubic feet per annum. As to the position of Manchester with respect to advantages in the manufacture of gas, Alderman Shuttleworth said that "as some remarks had been made about the price of gas, it was desirable the public should know that Manchester stood not in a good position, but in the very worst position in England, for having gas cheap, with regard to the value of the material. This would be evident on comparing it with some other places. There was one place in which 11s. was paid for cannel, and the coke sold at 4s. 6d. leaving the charge for the material of the gas 6s. 6d. a ton. London paid 13s. for its cannel, and the coke was sold at 11s. and therefore the cost of the material for gas was only 2s. a ton. Another town paid 6s. 3d. for cannel and sold the coke at 4s. 6d. In another place the coal was bought at only 4s. and the coke sold at 2s. 6d. Now what was the case in Manchester? Manchester paid a price which might be put down at 12s. 6d. for the cannel, though, during the last two years, a price 2s. higher was sometimes paid; and the coke was sold at 2s. 9d. The gas was, therefore, subject to a charge of 9s. 9d. for its material, which was no less than 7s. 9d. a ton higher than London paid."

STEAM PLOUGH.—The following account of a steam plough, described in the *New York Courier*, places all others in the distance. It is the invention of a native of Cromarty, in Scotland:—"Mr. Alexander T. Watson has devised a locomotive steam ploughing machine, which, if the operator desires, will also do the work of sowing and harrowing at the same time. The model exhibited by him, at 38, Wall-street, is constructed to drive twelve ploughs, and in land suited to its operators a single machine will work over from 30 to 40 acres a day."

WHY IS FIRE INSURANCE NOT UNIVERSAL?—A little more light is shed upon this question by "An Insurance Clerk," who writes us, enclosing a printed list of "duties paid to Government" by London and country fire insurance offices in 1850, being the last official return, from which it appears that the Government tax the prudence and the providence of the country to the extent of no less than 1,129,592*l.* per annum! "It must be borne in mind," continues our correspondent, "that the foregoing are the parliamentary returns of the year before last, those for the past year not being yet ascertained, but we may fairly allow for rather more than the average annual increase of business in 1851, on account of insurances effected on property in the Exhibition, and at the various wharfs and warehouses, so that doubtless the gross amount will be much greater than that of the preceding year. Now, Sir, I would ask you and your many readers—Do not the above figures, for they are *facts*, speak for themselves? Do not they point to why it is fire assurance is not universal? Is it not quite obvious that, however admirable may be the principles on which assurance is based, however great the advantages it holds out, and however low the premiums required—the mass will not embrace these advantages when they are accompanied with the dead weight of such a heavy duty. How can it be expected that the multitude will assure, when they find that, for every eighteenpence they pay the assurance office, the Government makes the modest demand of three shillings—*just double?* All the reasoning in the world would not bring the poor man to think that it is anything else than a most unjust and iniquitous imposition. He admits it is right to assure, but he refuses—*on principle*—to pay 200 per cent. duty on such assurances. In the above," adds the writer, "I have not alluded to the necessity of each policy bearing the shilling stamp, though of course it should not be forgotten in estimating the revenue derived from the prudence of the country." So long as taxes are necessary, it may be all very well to tax the follies, the luxuries, or even the comforts of the country to uphold its dignity and state, but the most ruthless raid—the blackest mail—of feudal chief was not more iniquitous, impolitic, or oppressive than it is thus to mulct and to suppress the well-doing and the foresight of the people.

RATING OF PARISHES FOR THE POOR.—The iniquity of the system of rating for the relief of the poor is an old grievance, and a most indefensible evil. A memorial on the subject has been presented to the Government, and if they desire to make themselves popular with the working and middle classes, they can do nothing so likely to effect their object as to remedy this grievance. It is an old axiom, however untrue, that it is the class most nearly allied to the pauper in position and means who are most charitable to and sympathise most with those requiring charitable aid. The law of parochial rates would appear to have been based on this axiom. Whatever parish is replete with the poor, there lay it on with a heavy hand; but go lightly over the parishes of the rich. Such is the virtual admonition and instruction of the law as it stands: whereas, had the converse of this been the rule, there would have been something more like rational principle in it. The general desire, however, is simply that some equitable adjustment be made for rating all according to their means, and not merely according to their parish, and we wish the petitioners all success in the attempt.

THE BIRMINGHAM SCHOOL OF DESIGN.—According to the new arrangements recently announced, there is to be no mere making up for the award of prizes by a temporary competition amongst the students, the whole of the drawings, models, &c. executed *in the school* over a whole session being now to enter as elements in the award. In original design the choice of subject is to be left to the invention, taste, and pursuits of the students, though certain subjects of local manufacture are recommended. The designs also must be executed in the school. This school is said to be making satisfactory progress.

THE JERSEY HARBOURS.—During the past ten years, says the *Jersey Times*,—from which we condense the following particulars,—a large amount of quay-room and accommodation for increasing commerce has been added to the former quay and harbour of St. Helier. In 1841, the Island States sanctioned the formation of a new pier and harbour, the foundation-stone of which was laid on 29th September, 1841. This harbour was formed and completed in less than five years, and was named "Victoria Harbour." It adjoins the old harbour to the south, and contains an area of about 7 acres; having a line of quay (exclusive of beaching-place) of 460 yards, with a depth at its extreme end of 38 feet; at its upper end of 28 feet. The quay is 50 feet in breadth, and the promenade 13½ feet wide and 1,300 feet in length. The "Albert" pier and dock were commenced in March, 1847, to the north of "Victoria Harbour," and west of the old harbour. Its area is 30 acres. The upper or northern end can be formed into a wet-dock, with an area of 13 acres, and a depth of water of 34 to 28 feet, at spring-tide: its quay-wall has an extent of 960 yards. The road-way is of same dimensions as those of Victoria Pier, and has a similar promenade, extending its entire length. It is 1,155 yards, or three quarters of a mile, in length, forming, with the promenade of Victoria Harbour, a walk of 1,605 yards. The entire area of these new works is 30 acres. "Albert" Pier and works were completed in November, 1851, and all the roadways and approaches were finished on 13th March, 1852, at a cost little short of 200,000*l.*—at the exclusive charge of the Island. The width of the new harbour is 640 feet. The entire area of the new harbours is 1,800,000 square feet. The old harbours have quay-wall, including the English and French harbours, of 1,200 yards, and an area of 13 acres; the breadth of the harbour being less than 100 yards. The old south pier-head, since the construction of Victoria and Albert harbours, has been thrown back 100 feet, thus making the entrance more easy of access. The depth of water in the old harbour varies from 24 feet, at the south end, to 14 feet, at the upper end, and its quay-wall averages a height of 16 feet. Its quay-wall, seaward, is 40 feet in breadth. The materials used in building the new harbour were principally obtained in Jersey, from the granite quarries at St. John's and La Moie, and the filling materials from adjoining rocks. The engineers were Messrs. Walker and Burgess; the contractors Messrs. Le Gros, De Gruchy, and De La Mare; the superintending engineer, Mr. Thomson. These works employed 500 stone-cutters, masons, and labourers, mostly from Devonshire.

RAILWAY JOTTINGS.—The directors of the South-Western Railway, in order to encourage the erection of cheap suburban dwellings, have, it is understood, resolved to contract with persons building such houses in the vicinity of the line for the issue of residential tickets for any given number of years, the same to be transferred with the key of the house to the occupier, for the conveyance of himself and family.——The South-Western and South-Eastern Companies have entered into an arrangement to unite their lines on the south of the Thames, by a junction from Wandsworth to Croydon. It is also intended to erect a large station at Wandsworth, whence the new line, to be called, "The North and South-Western and Brighton and Dover Junction," will run into the London and Brighton line a short distance north of the present Croydon station. Should the Fleet Valley Central Terminus scheme be carried out, the companies will cross the river by one common line.——Our returns, says the *Railway Times* of a recent date, show a receipt for the week of 252,673*l.* 3s. on 6,495 miles, indicating an average of 38*l.* 18s. 0½d. per mile. Last year, the 6,259 miles then opened produced the sum of 232,435*l.* giving an average of 37*l.* 2s. 8½d. per mile; and showing a balance in favour of the present week of 1*l.* 15s. 4d. per mile. The gross traffic of the kingdom, as returned since the 1st of January last, amounts to 3,128,580*l.* received on 6,495 miles, and averaging 481*l.* 13s. 9½d. per mile. In 1851, for a similar period, the amount reached 2,907,668*l.* produced on 6,259 miles, or 464*l.* 11s. 1¾d. per mile. The balance in favour of the present half-year is 17*l.* 2s. 7¾d. per mile.——The *Bombay Telegraph* of 3rd March last announces that "the snorting of the iron horse has at last been heard on Indian ground. In other words, the steam locomotive (called *The Falkland*) recently imported by the contractors, Messrs. Faviell and Fowler, was tried on the line at Byculla, on 2nd February, and at present the engine is a 'nine days' wonder,' and all Bombay goes to see it."

THE INTEREST OF BIRMINGHAM IN IRON-TRADE PRICES.—A correspondent of the *Birmingham Journal* deprecates the tendency of local papers to cry up the price of iron at quarterly meetings. "Under my direction," he says, "is annually used from 12,000*l.* to 14,000*l.* worth wrought iron in bars, plates, and strips, all of which leave the works in a variety of useful forms, and of every-day utility. Now we will suppose an increase of 2*l.* per ton in the price of such iron as I use, which increase would cause me a loss of nearly 4,000*l.* per annum in the article of iron alone. What must be the consequence? I have to increase the selling price of my goods, and in doing so, I know, by experience, that course will diminish the sales and the number of people employed, increase poverty and pauperism, and swell the prison list. Does not this case apply to all the various trades where iron enters largely into the manufactures going on? Certainly it does. To go back to the high prices of iron would be placing an incubus on the march of improvement that so greatly distinguishes the present age, and the remedy for loss from the present low rates will not be found in making them higher. Such improvements may be effected in the manufacture of iron that the ironmasters would be able to sell lower than the present rates; and as an instance of what science and enterprise can perform, I may mention that during the present quarter (March), I received notice from the parties who supply me with iron that what I was then paying 6*l.* 5s. for, would be 6*l.* 2s. 6d. until the end of the quarter, and commence the April quarter with 6*l.* with the prospect of further reduction. A similar reduction took place in the other sorts of iron I am using: these men are among the most wealthy in the iron trade of South Staffordshire, and, I am happy to say, to be found zealously working for the ultimate triumph of science and truth over ignorance and error."

LORD CARLISLE'S LECTURES AND ADDRESSES IN AID OF POPULAR EDUCATION.—Many of our readers will be gratified to learn that these admirable lectures and addresses have been collected and published in a shilling part of the *Traveller's Library*. They comprise the well-known lectures on the poetry of Pope, and on the noble Earl's travels in America, as well as numerous addresses,—on the benefits conferred by education, the utility of mechanics' institutes and their position in Yorkshire, the union of labour and intellectual attainments, the improvement and development of the intellect, the Great Exhibition, and other topics, and are highly capable of pleasing and instructing the mind of the reader, whoever he may be. They are written by one whom we respect as one of the most advanced types and exemplifications of the enlightened gentleman of the nineteenth century.

THE ENGINEERS' DISPUTE.—The Amalgamated Operatives' Association have withdrawn their ill-advised circular, with the condition that the masters will withdraw the declaration to which it gave origin. This we hope the masters will do, and so at once put an end to this most distressing and disastrous dispute. Had the men taken the advice of their real friends in the outset, they might have still had, fructifying to some useful purpose, the 30,000*l.* in hard cash which they have literally thrown away in vain and idle attempts to upset necessary subordination; and even that large sum, positively and directly squandered as it has been, is as nothing to the actual loss additionally sustained both by men and by masters.

DRESSING STONE BY STEAM.—"We paid a visit yesterday," says a New York paper, "to the works of the Empire Stone-dressing Company. The stone (mainly brown, from the Portland quarries, near Middleton, Connecticut) is hoisted by steam-power directly from the vessel in which it reaches our city, lowered upon a tram-road, and drawn into the shop, where it is fastened on appropriate beds or carriages, and so drawn gradually under the cutters, which, in the most approved machines, are four, revolving in a circle, and cutting away the stone to the depth of an inch, or more if required, at the rate of about two cubic feet per minute. There are six machines employed in the Empire Works, and the number will, doubtless, be increased to twenty or thirty within a short time, as the demand for dressed building-stone is practically unlimited. Each machine will dress from 300 to 500 feet per day, according to the width of the blocks. After dressing, the stone is very speedily polished and finished off by a different machine, in which the *chip* or dust made by cutting is used as scouring sand.

TRAMWAYS. — Why should not "tram-roads" be generally adopted in great towns? That greatly diminished wear and tear would result is evident from the examples in use, and I think if we reflect upon the innumerable tons of merchandise which, under the present system, are dragged and jolted about, to the injury of waggons and horses, and the waste of time, we shall be forced to confess that an uniform arrangement of smooth and easy tramways is one of the wants of the times.—T. T. C.

DRAINAGE TENDERS.—I beg to hand you a list of tenders for the drainage of Hayles' Charity Estate, St. George's-road, Southwark, Mr. W. Rogers, architect.

Mutter	£545	3	6
J. Laughton and Co.	459	0	0
G. Greigson	340	0	0
J. Pope	335	0	0
Th. Gardner	330	0	0
J. H. Brown	325	0	0
J. C. North	284	0	0
Willis and Davis	270	0	0
Radley and Rogers (accepted)	216	0	0

The work comprised 3,150 feet of 6 inch glazed pipe; 550 feet 9 inch glazed pipe; 309 single and double junctions; all the cesspools on the estate to empty and fill up, &c.; also to keep the work in repair twelve months.—R. S.

TENDERS FOR SEWERS!—For building 3,043 feet of half brick sewer, in Grove-road, Upper Holloway, for Mr. David Hughes. Mr. Tatlock, surveyor.

Dethick	£1,477	0	0
Hill	1,380	0	0
Murray	1,244	0	0
Carter	1,137	0	0
Greigson	1,083	0	0
Radley and Rogers	1,075	0	0
Humphreys and Thirst (accepted)	969	0	0
Beck	867	14	6
Langton and Wright	825	0	0

For brick and pipe sewers in James-street, Lisson-grove, for the Metropolitan Commissioners of Sewers:—

Hill	£480	0	0
Williams	435	0	0
Radley and Rogers	331	0	0
Humphreys and Thirst (accepted)	319	0	0

ROAD MAKERS' ESTIMATES.—The following tenders were delivered at Messrs. Habershon's office, on the 5th April, for making roads and sewers at Plaistow, Essex, for Mr. Riles:—

Greigson	£931 !
Termain	844
Hill	659
Murray	564
Thompson and Webb	524
Reid	476
Watson	468
North and Gardner	465
Rogers and Radley	462
Ward	454
Watts	446
Green	436
Beck	339 !

LECTURE ON IRON AT SOCIETY OF ARTS.—Mr. S. H. Blackwell, F.G.S. of Dudley, lectured lately at the Society of Arts, Adelphi, on "the Ironmaking Resources of the United Kingdom." The lecturer commenced by calling attention to the principal features of the Great Exhibition of 1851, the importance of its influence on the arts, sciences, and manufactures, and to what an extent the raising of that building itself showed the iron making resources of the country, on which in a great measure was based our manufacturing greatness, and which tended to bind all interests in one common bond of union. A rapid view was taken of the rise and progress of the iron manufacture in this country, which was divided into two periods,—first, from the earliest ages up to the time when coals were first attempted to be employed as smelting fuel,—and second, from that to the present time. The lecturer then said it was impossible not to be struck with the vast and inexhaustible supplies of iron and fuel which we possess, and with the wonderful fact that the extraordinary demand which railways and other requirements have produced, should have led not to an increased price, but to a constant discovery of new and cheaper sources of supply. The iron trade illustrates what appears to be a general law—that the natural resources of the world appear to be developed at the exact times when the progress of society most requires them, and when that progress is such as to enable us to avail ourselves to the greatest advantage of new discoveries. This was illustrated by allusion to the progress of the iron trade, railways, steam-boats, electric telegraph, the vast gold discoveries, and the rapid colonisation of Australasia and America, as also the progress which was making, and must rapidly extend, in our Indian possessions, where every mile of railway laid down will lead to an ever increasing demand, "all tending," to use the words of H.R.H. Prince Albert, "to the accomplishment of that end to which indeed all history points the realisation of the unity of mankind."

HELP YOURSELVES.—BUILDERS' FOREMEN.—At the anniversary dinner of the Builders' Foremen and Clerks' Benevolent Society, reported in our pages, Mr. Jeremiah Pilcher, in returning thanks for the toast o. the city of London and its trade, observed that the list of subscriptions exhibited a great contrast between those who were the patrons and those who contributed for their own benefit. The small amount which the foremen and clerks gave was anything but satisfactory. These were persons who received a certain salary, and to whom the society should look for a large increase of revenue, it being founded entirely for their benefit. Supposing each foreman and clerk contributed a certain sum, although a small amount weekly, the sum so received would soon amount to something very considerable: indeed, they might fairly expect to see almshouses speedily raised for the aged and infirm, and for those who might be unable to work from accident, to which the nature of their calling subjected them: he, the speaker, trusted that this hint would not be lost sight of, and that when they next met, the report would show a decided improvement in their funds through the adoption of it.

THE FOUNTAIN AT BILLINGSGATE, which we said was contemplated when we published our view and account of the new buildings there, has been set up. It is of cast iron, and consists of a basin about 15 feet in diameter, with a stem in the centre composed of rushes, from which water will rise to some height. Over the lip of the basin, at regular intervals, lie twelve dolphins, which will discharge water for the use of the market-people.

FINSBURY PARK. — A correspondent, "W. N." wishes to be informed whether the Finsbury Park scheme is alive or abandoned, as he sees that some one has marked with a railing the plan of a road through the fields proposed for the park; and he asks if this be for building purposes. We fear from what we have heard that nothing has been done as to the projected park, but perhaps some other correspondent may be able to give us the most recent news as to it.

SELF-SUSTAINING SYSTEM OF SEWAGE REMOVAL.—Mr. T. A. Yarrow, C.E. (formerly surveyor for the county of Chester, but now resident in London), has been engaged, it appears, to report upon the drainage of Coventry, and in a pamphlet, developing a plan for saving the sewage of towns and applying it to agricultural purposes, he says:—"The means I propose to adopt are those suggested by Prince Albert, consisting of a rapid filter of peculiar construction; and the deodorant and absorbent employed in the process is peat charcoal, now produced at small cost from the bogs in Ireland. The plan consists of an application of the sewage filter at the outlet of the main sewer, by means of which sewage will be deprived of its colouring and offensive matter, and made to pass off in a perfectly clear state. After a certain time the charcoal in the filter will require to be renewed, when a little granulated charcoal must be added to the solid matter retained in the tank, and in a few minutes the whole mass will assume the form of a dry, portable, and inodorous manure, ready for packing in barrels or sacks, and capable of being transported by any mode of conveyance.".

A ROMAN CATHOLIC PRESBYTERY AT MALLOW has been erected for the Roman Catholic clergy of that district, from the designs and under the superintendence of Mr. R. Brash, of Cork. It is in the style of the 15th century. The walling is composed of mountain sandstone, close grained and of a dark red colour, built in Raudon ashler, with vertical and horizontal joints, and contrasts with the light limestone of which all the dressings are formed, such as plinth, quoins, jambs, mullions, and labels of windows, door-cases, niches, &c. and the casements are cast-iron, of lozenge pattern, with bronze fastenings. All the ceiling-joists are moulded, and with the sound boarding, are to be finished in appropriate colours. All the woodwork is to be stained and varnished. The building contains drawing-room, dining-room, library, kitchen, pantries, &c. on the ground floor, with 9 sleeping apartments, oratory, and corridor on the upper floors. It is intended to erect a convent in the same style for the Sisters of Mercy, on ground adjoining the above, which is to contain schools and a refuge for destitute females.

STAINED GLASS, TRINITY CHURCH, MARYLEBONE.—A stained glass window, executed by Mr. Baillie, has been set up in the east window of Trinity Church, in the New-road. It is understood to be to the memory of Mr. H. St. George Tucker. From notices in some of the newspapers we expected to see a superior work, but must acknowledge our visit disappointed us. The window is divided into six compartments, three upper and three lower. The upper part of the centre compartment contains an emblem of the Trinity and Eternity in a panel, under which is inscribed, "Glory to God in the Highest;" and in a panel at the base in like manner, "Be thou faithful unto death, and I will give thee a crown of life." The remainder of the window is filled with unmeaning and ugly scrolls and foliage, which impart neither idea nor pleasure. It is stated, that the inhabitants propose filling the two side windows also with stained glass. In this case it is to be hoped Mr. Baillie will adopt a different style of glass.

GREENWICH PARK AND BLACKHEATH.—Workmen have just commenced breaking the ground, for laying down draining-pipes diagonally across the lawn between the Naval Asylum and Flamstead Hill. A new church at Blackheath is about to be erected at the cost of Mr. Angerstein, on a piece of ground between Myrtle-place and Shooter's-hill road.

WALDENSIAN CHURCH, TURIN.—A Protestant journal, published in Turin, contains the following notice of the Evangelical Church erecting for Italian Protestants of that city:—"The works, which were resumed some days ago, are proceeding with great alacrity, and it is hoped that before the end of the season the church will be roofed in." An appeal has been made to the Protestants of this country to aid in the erection. In Glasgow, according to the *Christian Times*, about 500*l.* have been collected.

VALUE OF GROUND AT EDINBURGH.—In a submission between the Edinburgh and Glasgow Railway Company and the magistrates of the city as to the ground in Princes-street-gardens taken by the company in carrying through their line from the Haymarket to the North bridge, and in which Mr. C. M'Gibbon, builder, on the part of the city, and Mr. James Smith, on the part of the company, were appointed arbiters, and ultimately Mr. L. A. Wallace, architect, oversman,—Mr. Wallace has finally decreed that the value of the ground due to the city is 3,370*l.* Witnesses on behalf of the city estimated it as worth 30,000*l.* The oversman decided on the principle of value to the sellers rather than to the buyers.

A VALUABLE BRICK.—A journeyman mason, lately employed on some repairs to a chimney in the Rue des Francs Bourgeois, Paris, while at work, broke up a brick which he found loose in the chimney, and, to his surprise, discovered that it was hollowed out, and contained a bank-note for 500 francs. The workman honestly communicated the fact to his employer, who called to mind that he had written his uncle, at Amsterdam, for money, and had received nothing but the brick in question, which he indignantly threw into the chimney, and wrote to his uncle an angry letter, to which no answer had been given. In Holland, it seems, hollow bricks are made on purpose to send small sums of money, as making a more secure package than any other.

WARMING AND VENTILATION OF THE HOUSE OF COMMONS.—Mr. Goldsworthy Gurney has reported to the House that by a simple arrangement most of the evils complained of could be remedied at small expense, but he declines to enter further into the subject unless—"called in." We are told to expect that some curious evidence will be tendered to the committee after the recess.

IMPROVEMENT OF BRISTOL.—A special meeting of council was held on Wednesday in last week, to consider the propriety of opening a new street from Temple-street to or near the terminus of the Great Western Railway, and of borrowing 10,000*l.* towards carrying out the improvement; but we regret to say that the resolution proposing the project, subject to subsequent revisal, was lost by a majority of thirty-eight against six in favour of it.

TENDERS

Delivered for building Primitive Methodist Chapel, Hackney-road:—

Wythe (Kingsland)	£1,857
Norris (Hackney)	1,570
Vaughan (Shoreditch)	1,329
Cranston (Newington)	884

The latter accepted, with an addition to his tender of 286*l.* making a total of 1,170*l.*! A correspondent complains of the mode of proceeding; but we are unable to enter into it.

For erecting a villa residence, Addison-road, Kensington Mr. Brown, architect:—

Symonds	£1,639
Watts	1,613
I'Anson	1,596
Higgs	1,549
G. Mansfield and Son	1,525
Browne	1,480

For the second design for a new station for the South-Western Railway, at Richmond:—

Piper	£4,070
Lovell	3,950
Carless	3,895
Smith	3,838
Brass and Son	3,797
T. Long and Son	3,694
Nicholson and Son	3,675
Little and Son	3,650
Grimsdell	3,545
Mills and Joy	3,520
Jay	3,463
Pollock and McLennan	3,390

For the rebuilding of a house in Hollis-street, under Mr. Marshall, architect:—

	Shop Front.	Total.
Messrs. I'Anson	£133	£2,086
Smith and Appleford	132	2,029
Mr. H. Burton	122	1,881
Messrs. Roper	125	1,975

For four villas, in Elm-grove, Southsea, for Mr. Gibson, Mr. A. F. Livesay, architect. Quantities provided.

Aylen (Portsea)	£3,258
King (Portsea)	3,120
Absalom (Portsea)	3,028
Hendy (Portsmouth)	2,898
Davis (Southsea)	2,775
Camwell (Portsmouth)	2,395

TO CORRESPONDENTS.

"R. B.," "J. G. P.," "Pan" (declined with thanks), "J. B." Pentonville, "W. G. H." (we do not think the design an improvement on the Corinthian capital), "T. L. D.," "R. J. C.," "Rev. H. C. K.," "A Labourer" (must refer to published tables), "Nails for Slating" (we should prefer zinc nails to painted iron nails), "B. O.," "T. L." (thanks), "H. and T.," "E. H.," "W. D." (write to the secretary, 16, Grosvenor-street), "D. W. B." (glad to hear from him), "The Man in want of a House" (London's Encyclopædia of Villa Architecture), "J. W. H.," "T. T.," "R. B." ("R. R." did not mean "R. B."), "H. W. S.," "H. W.," "H. D.," "G. H.," "A Subscriber," "R. N.," "R. and Son," "M. A. A." (shall appear), "Lady B." (next week), "D. O. E." (ditto.)

"Books and Addresses."—We have not time to point out books or find addresses.

NOTICE.—All communications respecting *advertisements* should be addressed to the "Publisher," and not to the "Editor:" all other communications should be addressed to the EDITOR, and *not* to the Publisher.

CONTRACTS.

TO BUILDERS.

PARTIES desirous of TENDERING for the RESTORATION and ENLARGEMENT of the PARISH CHURCH of WINFRITH, near DORCHESTER, are informed that the working drawings and specification may be seen at the Rectory, Winfrith, on and after MONDAY, the 12th April; or at the office of T. H. Wyatt, esq. Architect, 77, Great Russell-street, London. The tenders to be delivered on MONDAY the 19th of April to the Rev. G. B. COSSERAT, at Winfrith.

TO BUILDERS.

PARTIES desirous of TENDERING for the ERECTION of a NEW SAVINGS BANK, in the Town of Warminster, Wilts, are informed that the drawings and specification may be seen on and after Monday, the 12th April, on application to Mr. BUSH, at the Savings' Bank, Warminster; or in London, at the Office of T. H. WYATT, Esq. Architect, 77, Great Russell-street. Sealed tenders to be delivered at the Office of Mr. BUSH, on Tuesday, the 20th April. The trustees and Managers do not bind themselves to accept the lowest tender.

SCHOOL DESIGNS, &c. WHITECHAPEL UNION.—Any gentleman who has delivered designs and plans for the School at Forest Gate, and which are denoted by a motto different from the under mentioned, may (the same not being approved) receive his plans, &c. from the Master of the Union Workhouse, in Whitechapel-road, but must previously produce to me a fac simile of his motto, and a note in the same handwriting as the address on the envelope, and must afford such other information as will satisfy me as to the identity of the applicant. such envelope, containing his name, &c. not having been opened.

"Palmam qui meruit ferat."
"Fides."
"We will try what we can do."
"Industria."
"Do wool and hae wool."

By order of the Guardians,
50, Leman-street, 8th April, 1852. JOHN SMITH, Clerk.

TO PARENTS AND GUARDIANS.

AN Architect and Civil Engineer has a VACANCY for a PUPIL.—Letters addressed to A. B. C. Office of "The Builder," 1, York-street, Covent-garden, will meet with prompt attention. A premium required.

PUPIL WANTED.—A Building Surveyor, in good practice, has a VACANCY for an out-door PUPIL, who will have every opportunity of acquiring a perfect knowledge of his profession. A premium required.—Address to C. S. W. Office of "The Builder," 1, York-street, Covent-garden.

PUPIL and DRAUGHTSMAN.—A Civil Engineer, engaged in the construction of public works, requires a gentleman, duly qualified, as a Draughtsman and Assistant in his Office. There is also a vacancy for a Pupil.—Address, with terms and testimonials, to L. N. Office of "The Builder," 1, York-street, Covent-garden.

MANCHESTER.—TO PARENTS AND GUARDIANS.—There is a VACANCY for a youth of respectable connections in an office and manufactory where he would have the advantage of acquiring a thorough theoretical and practical knowledge of the profession of a CIVIL and MECHANICAL ENGINEER, combined with the opportunity of learning GAS ENGINEERING in all its branches. He will be bound to a member of the Goldsmith's Company.—Apply to ALPHA, Post-office, Manchester.

WANTED, to place a respectable Youth as IN-DOOR APPRENTICE to a Carpenter and Builder, of a respectable business.—Apply to Mr. NOVINGTON, Baker, Finsbury-market, Finsbury-square.

TO ENGINEERS, SMITHS, GAS-FITTERS, &c.

WANTED, to APPRENTICE a respectable YOUTH (indoors), to gain a thorough general knowledge of the above branches; in or at a convenient distance from Town would be preferred.—Apply, by letter, to J. C. care of Castle and Lamb, 7, Bull head-court, Newgate-street, London. A moderate premium will be given.

AN Architect is in want of temporary ASSISTANCE by one fully competent to make working details for a dwelling in the Tudor style.—Address, stating experience and terms, to G. H. Office of "The Builder," 1, York-street, Covent-garden.

TO ARCHITECTURAL DRAUGHTSMEN.

WANTED, for a permanency, a DRAUGHTSMAN thoroughly accustomed to Gothic detail and drawing, together with the usual routine of an office.—Address, B. M. at the Office of "The Builder," 1, York-street, Covent Garden, stating references and salary.

FOREMAN, Brickmakers.—Wanted an experienced WORKING FOREMAN to superintend and keep the accounts of a brickfield in the neighbourhood of London.—Apply, by letter only, stating terms, to A. B. care of — Lockwood, esq. 118, Fenchurch-street.

AN ENGINEER WANTED, at the KENT COUNTY LUNATIC ASYLUM, Barming Heath, near Maidstone, to undertake the management of the steam-engine and the cooking and washing apparatus and pumping, and to perform any other works in an engineer's department which may be required of him under the direction of the surveyor. He will be required to have charge also of the principal entrance-gate. Persons desirous of becoming candidates are to transmit their applications and testimonials of character and competency before Saturday, the 24th April, addressed to Mr. BEALE, Clerk to the Visitors, King-street, Maidstone. Candidates must be under 45 years of age, and married. The salary will be 30s. a week, with a house at the entrance-gate, and milk for himself and family, and two pints of beer daily. The duties are to commence on the 8th of May, and the appointment is to cease on either party giving to the other one calendar month's notice. Should further information be required, application must be made to Mr. WHICHCORD, County Surveyor, Week-street, Maidstone. The candidates whose qualifications are not approved, will be informed thereof immediately; whilst those from whom the Visitors would wish to select are to attend a meeting at the Asylum for that purpose on Saturday, the 8th of May, at their own expense, of which information will be given them.

By order of the Committee of Visitors,
WILLIAM BEALE, Clerk to the Visitors.
Maidstone, April 7th, 1852.

WANTED, by a Surveyor in the country, an experienced CLERK, competent to prepare fair and working drawings, specifications, &c.—Address, stating terms where last engaged, &c. to H. H. Post-office, Luton, Beds.

TO HOUSE PAINTERS.

WANTED, a good SIGN WRITER, in a constant situation. Testimonials required.—Apply, by letter, A. G. Post-office, Wolverhampton.

WANTED, at Country Wages, in a Town about thirty miles from London, TWELVE good HOUSE PAINTERS, who, if suitable, will have constant employment for four months.—Apply, Monday, April 19, from twelve till one o'clock, at 32, Stangate-street, Lambeth.

TO BUILDERS AND PLUMBERS.

WANTED, by a respectable Young Man, a SITUATION as PLUMBER, or PLUMBER, GLAZIER, and PAINTER, in Town or Country. Wages no object.—Address to J. G. No. 31, Great Barlow-street, Marylebone, London.

TO SURVEYORS, &c.

WANTED, by a Young Gentleman, 24 years of age, a SITUATION as SURVEYOR, thoroughly conversant with every branch of the profession. Unexceptionable references can be given.—Address, A. B. 8, Angell-terrace, Paradise-place, Stockwell.

TO PAINTERS, DECORATORS, AND BUILDERS.

WANTED, a SITUATION as FOREMAN of PAINTERS and DECORATORS, or to take the Management of a Business. No objection to the Country.—Address, G. H. 97, Charlotte-street, Fitzroy-square; if from the Country, stating wages.

TO ARCHITECTS.

WANTED, a SITUATION, by an experienced Draughtsman, who is well versed in Gothic architecture, and accustomed to making Perspective Drawings. The Advertiser's testimonials will be found unexceptionable.—Address, M. No. 1, Chapel Field-road, Norwich.

TO BUILDERS.

WANTED, by the Advertiser, a SITUATION as CLERK, thoroughly acquainted with the business, has been in a builder's office some years, and accustomed to measuring and estimating; or as Clerk of Works, having been engaged in several extensive buildings.—Address to A. B. Post-office, 196, Tooley-street.

TO ARCHITECTS AND SURVEYORS.

A GENTLEMAN, aged 27, having a good theoretical and practical knowledge of both branches of the Profession, wishes for an ENGAGEMENT.—Address H. H. No. 2, Hemus-terrace, King's-road, Chelsea.

TO UPHOLSTERERS, &c.

A FOREMAN, of considerable experience, is desirous of procuring a SITUATION in the same capacity in a first-rate house in town.—Letters addressed "UPHOLDER," and left at the Office of "The Builder," 1, York-street, Covent-garden, will meet with attention.

TO PLUMBERS, PAINTERS, AND BUILDERS.

AS WORKING-FOREMAN, a Man who has filled a similar situation, has been accustomed to Plumbing, Writing, and Graining, Measuring, and Estimating; no objection to Town or Country.—Apply, by letter only, to B. A. Office of "The Builder," 1, York-street, Covent-Garden.

TO BUILDERS AND CONTRACTORS.

A PRACTICAL PERSON, who has had the Superintendence of extensive works for several large firms, requires a SITUATION as Clerk of Works, or General Foreman, or Foreman Bricklayer. Satisfactory testimonials can be given. Address to G. D. Post-office, Upper-street, Islington.

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" 45 to 85 " " Threepence " "
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The rate of subscription will not increase as the contributor grows older, but the same weekly sum paid at the commencement will be continued throughout life.
Subscribers may make from one to ten subscriptions, so as to secure the sum of Five, Ten, Fifteen, Twenty, and so on up to Fifty Pounds.
N.B. No communications relative to the assurance of sums from 5*l.* to 50*l.* can be attended to unless addressed to Mr. JOHN MOLYNEUX, 2, Exeter 'Change, Wellington-street North, Strand.

MERCHANT'S and TRADESMAN'S MUTUAL LIFE ASSURANCE OFFICE, 5, Chatham-place, Blackfriars, London.
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The Advantages offered by this Society are—
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Non-forfeiture of Policies. Assurers who find it inconvenient to pay their premiums as they fall due, may have a credit of the amount on application to the Board.
LOANS granted on Personal and other Securities in connection with Life Assurance.
Prospectuses and every information may be obtained at the Office. GEORGE THOMSON, Manager.
THOS. MUSGRAVE, Secretary.

ALLIANCE LIFE and FIRE ASSURANCE COMPANY.—Capital, 5,000,000*l.* Established 1824.—The Board of Directors have opened a WESTERN OFFICE, at No. 6, Waterloo-place, Pall-mall, where the public will find every facility in the transaction of both Life and Fire Assurance business. They have nominated EDWARD LOMAX, Esq. to the superintendence of this branch. A. HAMILTON, Secretary.
Bartholomew-lane, London, April 13, 1852.

ROYAL COLOSSEUM.—NOW OPEN, DAY and EVENING.—The whole of this magnificent establishment has been re-decorated, many additions have been made, a new room opened, containing a skeleton of the Gigantic Mastodon, Gothic Aviary entirely rebuilt, the Saloon of Sculpture now forming the most splendid Coup d'Œil in Europe. The original PANORAMA of LONDON is exhibited daily, from Half-past Ten till Five; and PARIS by NIGHT, every evening (except Saturday), from Seven till Ten. Admission, day or evening, 1*s.*; children and schools half-price. A Series of Tableaux of the CRYSTAL PALACE has been some months in preparation for the CYCLORAMA Building, and will be exhibited in a few weeks.

PATRON—H. R. H. PRINCE ALBERT.

ROYAL POLYTECHNIC INSTITUTION.—Prevention of Forgery: a Lecture by J. H. Pepper, esq. on Glynn and Appel's Patent Paper for the Prevention of Piracy and Forgery by the Anastatic Process, daily at Two o'clock, and on Monday, Wednesday, and Friday Evenings at Nine.—The talented Vocalist, Krauss de Feher, who possesses the extraordinary compass of four octaves, and sings in thirty-six different foreign dialects, will give his musical illustrations every Evening, except Saturday, at Eight o'clock.—Lecture on Voltaic Electricity, with brilliant experiments, by Dr. Bachhoffner.—An Explanatory Description, by Mr. Cripps, of the various kinds of Muskets, Rifles, &c.—A splendid New Series of Dissolving Views.—Exhibition of the Microscope.—Diver and Diving Bell, &c. &c.—Admission, 1*s.*; Schools and Children under ten years of age, half-price. A new edition of the Catalogue.

TO ARCHITECTS.

COMPETITION and other DRAWINGS.—Mr. THOMAS S. BOYS, Member of the New Society of Painters in Water Colours, and author of "The Picturesque Architecture of Paris, Ghent, Rouen," &c. and of "London as it is," offers his services in Tinting Backgrounds, Landscapes, Perspective Views, Interiors, &c. From the long experience he has had in such subjects, he is fully aware of the points essentially necessary to be attended to. Drawings and designs lithographed in a superior manner.—Address, Mr. BOYS, 18, Albany-street, Regent's-park.

DECORATIVE PAINTING.—Mr. FREDERICK SANG, from the Royal Academy of Munich, DECORATIVE ARTIST in FRESCO, and in all other manners of Painting; whose works may be seen in the principal public buildings of the metropolis, begs to inform his patrons and Architects in particular, that he has considerably increased his Establishment, and is now enabled to undertake, on the shortest notice, the embellishment of private and public buildings, in any part of the United Kingdom, on the most reasonable terms, and in any of the Classical, Mediæval, or Modern Styles.—Apply to F. SANG, Decorative Artist, 58, Pall-mall, London.

QUANTITIES, SPECIFICATIONS, SCHEDULES of PRICES, WORKING DRAWINGS, &c. copied, lithographed, or printed.
PLANS, ELEVATIONS, DRAWINGS of MACHINERY, &c. lithographed or engraved.
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GENERAL STATIONERY, for the use of BUILDERS, ARCHITECTS, SURVEYORS, and ENGINEERS, at the lowest current rates.
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Contracts for the supply of large establishments.

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MARTIN and HOOD, Architectural, Mechanical, Engineering, Map, and Plan Draughtsmen, Plain and Ornamental Writers, Engravers, and General Lithographers, respectfully intimate to their patrons and the public, that they are prepared to undertake WORKS OF ANY MAGNITUDE, in the above branches, on the most reasonable terms.
WORKING and TINTED DRAWINGS of every description of MACHINERY.
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NOTICE is HEREBY GIVEN, that a GENERAL QUARTERLY MEETING of Members of the INSTITUTION of BUILDERS' FOREMEN and CLERKS of WORKS will take place on Wednesday Evening next, at the Bay Tree Tavern, St. Swithin's-lane, for the purpose of transacting the usual quarterly business. W. ALLARD, Secretary.

THE CO-OPERATIVE SOCIETY of ENGINEERS are now prepared to execute Orders in every department of the Trade. First-rate mechanics sent to any part of the country on the shortest notice.—East London Iron Works, Cambridge-road, Mile-end.

CARPETS.—BRIGHT'S SPLENDID VELVET TAPESTRIES.—These goods being woven by steam power, are at least one-fourth cheaper than handwoven goods, the patterns more elaborate, and the quality equal to any. Brussels carpets, of old patterns, at a great reduction. French, silk, and worsted, damask, warranted 54 inches wide, from 6*s.* 6*d.* per yard. Turkey carpets, floorcloths, &c.—LUCK, KENT, and CUMMING, 4, Regent-street, Waterloo-place (opposite Howell and James').

A STEAM BOILER, and TWO COPPER BOILERS, the property of the Directors of the Poor of the parish of St. Pancras, in the county of Middlesex, TO BE SOLD. They may be seen at St. Pancras Workhouse, King's-road, Pancras-road, on application to Mr. HADRELL, the Master, on any day (Sunday excepted), between the hours of Ten and Five o'clock.

STEAM SAW-MILLS for SALE.—The Whole or any Portion of the MACHINERY for a STEAM SAW-MILL, recently taken down, and put into perfect repair, consisting of a Twenty-horse and Ten-horse power high pressure Steam Engines, with the Boilers and fittings complete, ready for erection; a Saw-frame for cut timber, Four Saw-frames to cut planks and deals, several circular saw tables, saws, shafts, drums, wheels, bands, &c. all by London makers.—Apply to Messrs. MEDWIN and HALL, Engineers, 92, Blackfriars-road, where the same may be seen.

PORTABLE STEAM-ENGINES on WHEELS. TO CONTRACTORS AND OTHERS.—FOR SALE, or TO BE LET, on HIRE, strong, simple PORTABLE STEAM-ENGINES, mounted on wheels, suitable for pumping, winding, sawing, or any other purpose, of three, four, six, eight, ten, twelve, and twenty horse power. Also a Portable Engine and Mortar Mill, connected on wheels. By "Gough, Manchester."—Apply to Messrs. MEDWIN and HALL, Engineers and Portable Engine-makers, 92, Blackfriars-road, where the above may be seen.

PLANING MACHINES.—TO BE SOLD, a great bargain, One PLANING MACHINE, one Planing and Matching Machine, and one Finishing Machine, with shafting to ditto; to be seen in good working order.—Apply to H. SOUTHAM, at Mr. Kelk's Saw-mills, Gillingham-street, Pimlico.

FOR SALE, a WOOD-PLANING and MOULDING MACHINE, ready for immediate work, fitted with a very complete set of Planing and Moulding Tools. This machine is capable of planing the four sides of boards, and moulding at the same time if required; and is qualified to prepare flooring-boards, matched linings, skirtings, panel stuff, mouldings, &c. &c.—For further particulars, apply to Mr. HENRY CLIFFORD, No. 8, Salisbury-street, Strand, London.

TO ARCHITECTS, BUILDERS, CONTRACTORS, &c.

HARTLEY'S PATENT ROUGH PLATE GLASS,

1-8th thick, or 2 lbs. to the foot; 3-16ths, or 3 lbs.; and 1-4th, or 4 lbs. to the foot, for

RIDGE AND FURROW ROOFS, GREENHOUSES, RAILWAY STATIONS, ENGINE SHEDS, MILLS, MARKET HALLS, AND PUBLIC BUILDINGS GENERALLY.

It being universally admitted that Glass in Roofs of a permanent character should not be less than one-eighth of an inch thick, weighing two pounds to the foot, Messrs. JAMES HARTLEY and CO. have directed their attention to the manufacture of a description of

ROUGH PLATE GLASS THAT COMBINES SIZE AND STRENGTH WITH ECONOMY OF COST.

The PATENT ROUGH PLATE is manufactured in sizes expressly for Ridge and Furrow Roofs, giving a span of from 8 to 12 feet, at a price not exceeding weight for weight that of common Crown Glass. Not being transparent, blinds are unnecessary, and when used in Greenhouses no scorching occurs; its NONTRANSPARENCY and strength render it eminently suitable for the Glazing of Conservatories and Roofs of all kinds; also Factories, Workshops, &c., for which purposes it is supplied in squares of all sizes, from 8 by 6 inches and upwards.

For further information apply to Messrs. JAMES HARTLEY and CO., Wear Glass Works, Sunderland.

N.B.—The Patent Rough Plate is supplied at a much lower cost than the common Rough Plate.—May 1, 1851.

GLASS FOR CHURCHES, CHAPELS, SCHOOLS, &c.

HARTLEY'S PATENT QUARRY GLASS,

Of three thicknesses, in long lengths: an economical substitute for lead lights. The attention of Architects, Builders, and others is particularly requested to this beautiful article; samples of which may be seen at

JOSEPH CHATER AND SON'S, ST. DUNSTAN'S-HILL, TOWER-STREET, LONDON.

HUBBUCK'S PATENT WHITE ZINC PAINT.—The PERMANENT WHITE of the Ancients, by its costliness hitherto restricted to the use of the artist, is now offered at the price of the ordinary white lead paint.

Four years since the proprietors placed their manufacture on a large scale, and put this elegant Paint in competition with White Lead.

Its confessed superiority over every other paint hitherto known brought forward various imitations.

These inferior productions, frequently made from zinc ores, containing lead, arsenic, and other deleterious material, alike injurious to health, deficient in body, and reducing the preservative properties for which the original paint stands pre-eminent.

In justice to the proprietors these should not be confounded with the original, even though sold under the pretence, that it is all the same.

HUBBUCK'S Paint is entirely free from any injurious properties whatever, it is healthful in the manufacture, healthful in use, and healthful to occupants of rooms newly painted with it.

As a guard to the painter against the substitution of the inferior paints, each cask is stamped

"HUBBUCK, LONDON, PATENT;"

and if the cask has not been so marked, the reason is obvious.

The powdered White Zinc also may be had for grinding in oil; also for use for porcelain cards, for japanners, for gutta percha, and for plaster decorations, and the other purposes where it is used with size, gum, varnish, spirit, &c. &c.

A Circular with full particulars may be had of THOMAS HUBBUCK and SON, Colour Manufacturers, opposite the London Docks.

THE WASHINGTON CHEMICAL COMPANY, NEWCASTLE-ON-TYNE;

Manufacturers of

PATTINSON'S OXICHLORIDE of LEAD.—The Washington Chemical Company having, during the last year, established a Manufactory of Pattinson's Oxichloride of Lead on a large scale, and being able to supply it with regularity, and to execute orders without delay, now proceed to bring this new and valuable preparation of Lead before their friends and the public, quite sure that it will not, in the present age, be condemned because it is new, and that if judged by its merits, it must make its way, and finally take its place as one of the important manufactures of this country.

Pattinson's Oxichloride of Lead is a chemical combination of one equivalent of Chloride of Lead, and one equivalent of Oxide of Lead; it being well known that common White Lead is a chemical combination of one equivalent of Oxide of Lead, and one equivalent (or thereabouts) of Carbonic Acid, constituting what is called in chemical language, Carbonate of Lead. Now there is no reason to conclude that Carbonate of Lead is the only compound of lead valuable as a paint, and still less that it should be the best compound of lead for that purpose. In point of fact it is not so, for the newly-discovered Oxichloride in most, if not in all respects is far superior; its colour is brilliantly white, and in a number of cases it has been tried against the best White Lead that could be obtained, and after a period of upwards of two years it has been found to retain its white colour, considerably better than the lead against which it was tried.

But the chief and by far the most important advantage it possesses is, its remarkable and very decided superiority of Body; by which term the power of covering surface well and extensively, is understood among Painters. The attention of the discoverer was at a very early period drawn to this circumstance, and since that time, the Washington Chemical Company have had abundant opportunities of placing its superiority in this important particular beyond all doubt. They have themselves performed a number of experiments, and have also caused a number of experiments to be performed, in the large way, by various practical men, to ascertain accurately its covering power as compared with the best White Lead, and they now state the proportions to be as 60 to 180, that is, 60 lbs. of Oxichloride paint will cover as much surface as 180 lbs. of the best White Lead, the saving of cost being in the same proportion; besides this, more coating is thicker and more protective, both in and out of doors, as the Oxichloride dries into a hard, tenacious layer, more like an Enamel than Paint.

In using the Oxichoride, no difference in the materials with which it is mixed is required. Oil and Turpentine being employed as usual both for work technically called Flatting, and for work intended to be varnished. For the use of Paper Stainers and Leather Dressers, the Oxichloride is found to be peculiarly suitable. The Washington Chemical Company strongly recommend this newly discovered substance to the notice of consumers, both on account of its economy, and its intrinsic good qualities as a paint.

OFFICE IN LONDON.—Mr. R. COOKE, No. 7, Sise-lane.

Office of the Washington Chemical Company, 73, Grey-street, Newcastle-on-Tyne, January 1, 1852.

PURE PATENT WHITE ZINC PAINT, from the VIEILLE MONTAGNE ZINC MINING COMPANY of BELGIUM.—This PAINT is superior in every respect to white lead; it is unequalled in whiteness, and grows very hard after it is applied, and is, therefore, for interior work, susceptible of a high polish. Besides, it is entirely free from all poisonous influences, is unaffected by sea-water, sulphurated hydrogen, or any gases, and preserves its original colour, which white lead does not do.

WHITE ZINC PAINT causes none of the ravages invariably committed by white lead upon the human frame; neither painter's cholic, nor paralysis, &c. &c. to which dangerous complaints the workmen and manufacturers who use it are subject, and to which persons who inhabit newly-painted apartments are also liable. Since its introduction into the United Kingdom by the patentees, the Admiralty and the most eminent professional men have given it their preference over any other paint. The public is cautioned, that if white zinc paint is adulterated, it becomes a very inferior paint, instead of a first-rate one, and peels or washes off on outside work.

The VIEILLE MONTAGNE ZINC COMPANY imports largely from its works in Belgium WHITE OXIDE of ZINC in a dry powder, and the casks bearing their mark, VM, are only to be considered as genuine, and may be obtained, for grinding in oil, at any of their Agents', residing in the following towns, viz.: London, Liverpool, Birmingham, Hull, Newcastle, Leith, Glasgow, Bristol, Plymouth, Norwich, Ipswich, Dublin, Cork, Belfast, and Jersey.

The same oxides ground "pure" to a White Zinc Paint, may be also obtained from the Company's Agents of the above-mentioned localities, as likewise from their Grinding Agents, Messrs. C. DEVAUX and CO. 6, King William-street, City, London; and Messrs. ROBT. ANDERSON and CO. Timber Bush, Leith, Scotland. Pure White Zinc Paint may likewise be purchased from Messrs. BLUNDEL SPENCE, and Co. Hull.

For further particulars apply to Mr. H. F. SCHMOLL, General Agent for the United Kingdom, at the Company's Offices, 12, Manchester-buildings, Westminster-bridge, London.

DAMP WALLS.—NEW PATENT PAINT, as applied on the THAMES TUNNEL, guaranteed effective and permanent inside or out, in quantities to finish 20 square yards for 10s.

PATENT LIQUID CEMENT for the fronts of houses, for beauty pre-eminent, giving the appearance of fine cut stone, and only one-eighth the cost of Oil Paint. In casks of 1, 2, and 3 cwt. at 8s., 15s., and 21s. each.

PATENT MINERAL ZINC PAINTS, invaluable for cheapness, beauty, and permanence, ready for use. White Stone and Lead, 5s., Greens and Blues, 6s. per gallon.

BLACK MINERAL PAINT, very permanent, half the usual price; only 2s. per Gallon.

NEW PATENT COLOUR for inside work, may be applied on Wood, Stucco, Cement, or over Oil Paint. No smell, and will dry in an hour. In casks of 1 cwt. at 14s.

G. BELL and CO., Steam Mills, 2, Wellington-street, Goswell-street.

PATENT VULCANISED INDIA-RUBBER TUBING, for Gas Fittings, Chemical Purposes, Fire Engines, Manure Pumps, &c.—JAMES LYNE HANCOCK, Sole Manufacturer (and Licensee), Goswell-mews, Goswell-road, London, begs to invite the attention of Architects, Builders, Engineers, and the trade generally, to the Vulcanized India Rubber Tubing, which is now manufactured from 1-8 inch bore and upwards, in lengths from 50 to 100 feet, and of various strengths, suitable to the purposes for which it is applied. VULCANIZED HOSE for FIRE ENGINES, LIQUID MANURE, and for conveying HOT WATER to BATHS in DWELLING-HOUSES and BREWERIES, manufactured to resist great pressure of any length and size to order.

*** Testimonials may be had on application at the Manufactory.

N.B. VULCANIZED WASHERS and SHEET RUBBER to Steam and Hot Water Pipes, and Packings for Pistons and Gland-Boxes of Steam Engines, cut any size to order.

GUTTA PERCHA TUBING.—Many inquiries having been made as to the durability of this tubing, the Gutta Percha Company have pleasure in drawing attention to the following letter, received from Mr. C. Hacker, Surveyor to the Duke of Bedford:—

"Office of Works, Woburn Park, Jan. 10, 1852.

"In answer to your inquiries respecting the Gutta Percha Tubing for Pump Suctions, I find that the water has not affected it in the least, although it will eat lead through in two years; we have adopted it largely, both on account of being cheaper than lead, much easier fixed, and a more perfect job.

"Yours, &c. C. HACKER."

N.B. The Company's Illustrated Circulars, containing instructions to plumbers for joining tubes, lining tanks, &c. will be forwarded on the receipt of three postage stamps.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

GUTTA PERCHA PAPER for DAMP WALLS. JEFFREY, ALLEN, and CO. having improved their make of the above, recommend it to the Trade as a substitute for lead, it being much cheaper, and (when the wall is not absolutely wet) equally efficient. JEFFREY, ALLEN and CO.'s

IMPROVED PAPER HANGINGS, comprising Decorations, Gold, Hock, Satin, Marble, and Bed room Papers, printed on their own premises, both by block, and cylinder, are also offered of good quality and at very moderate prices.—Kent and Essex-yard; or 115, High-street, Whitechapel, London.

PAPER-HANGINGS, by E. T. ARCHER'S patented Machine, Blocks, Cylinders, and Artistical Labour, at his Manufactory for all kinds of papers adapted for internal decorations. PANELLED DECORATIONS fitted up on the walls of the extensive Show Rooms, in every known style, and for all purposes, by artists of known merit.

Always on hand a CHOICE and EXTENSIVE SELECTION of FRENCH PAPERS, from the best manufacturers in Paris.

Attached to the paper-hanging factory there is the choicest assortment of CABINET FURNITURE in London, of the best make, and upholstery goods of the first fabric, Brussels carpet, 2s. 6d. per yard; floor cloths, the best that can be made, cut to any dimensions, 2s. 3d. per yard; silk and worsted curtains, of the finest fabric, 5 feet wide, 8s. per yard, at

E. T. ARCHER'S, 471, Oxford-street.

PAPER HANGINGS.—R. HORNE, PAPER-HANGING MANUFACTURER, 41, Gracechurch-street, City, invites builders and the trade to inspect his extensive stock of NEW DESIGNS in PAPER-HANGINGS, which, by the aid of powerful machinery, he is enabled to offer at the following prices, in stock quantities, for cash only, viz.:—

Stout lining paper	5d.	30 Piece.
Superior ditto	6d. and 7d.	
Bed-room papers, in great variety	at 5d.	
An excellent oak paper	at 8d.	
Sitting-room ditto, on blended grounds	7d. to 9d.	
Hand-made marbles	9d. to 1s. 6d.	
Good satin papers	1s. 6d. to 2s. 0s.	
Flock papers	2s. 0d. to 2s. 6d.	
Hand-made granites	9d. to 1s. 0d.	

Every novelty in French and English panelled decoration always on hand; also excellent imitation of fancy woods.

N.B. Patterns sent into the country, by post, showing the style and quality of the above, on receipt of two stamps, and the goods despatched with promptitude on receipt of a remittance to the amount of the order given.

LONDON and SOUTH-WESTERN RAILWAY. RESIDENTIAL TICKETS.—In order to encourage the Erection of Houses at moderate rents, viz. from 20l. to 50l. per annum, adapted to the wants of clerks, and of similar classes of society, on the Suburban Lines of this Company, which traverse the most healthy and attractive portion of the neighbourhood of London, the Directors are prepared to arrange terms for the issue, at a reduced rate, and for a given number of years, of Residential Tickets (1st or 2nd class), with persons erecting Twenty Houses or more, of the class referred to, on specified conditions, for the use of the occupiers of such Houses, and their families. A late train will run on the Windsor line daily on and after the 1st April, leaving Waterloo at eleven o'clock, p.m. and calling at the principal intermediate stations, and will continue to run permanently during summer and winter.—By order of the Court of Directors,

WYNDHAM HARDING, Secretary.

York-road Offices, March 27th, 1852.

GLASS TILES, ¼ of an inch thick, packed in cases containing fifty, 2l. 10s. per case net.

JAMES PHILLIPS and CO. beg to inform builders and the trade they supply SUPERIOR FOREIGN SHEET GLASS in cases of 200 feet, at 38s., 40s., and 42s. per case. STAINED and ORNAMENTAL GLASS, 1s. per foot. Hartley's Patent Rough Plate and Patent Quarry Glass.—116, Bishopsgate-street Without.

BELGIAN SHEET-GLASS.—ALFRED GOSLETT begs to inform the Trade that he is prepared to supply the above Glass, of good quality, and 16 ounces to the foot, upon the following cash terms:—In single cases, containing 200 feet (case included), 42s.; parcels of five cases, at 40s.; parcels of ten cases, at 38s. per case; or cut to any given size, at 1d. per foot.

SOHO CROWN, SHEET, ORNAMENTAL, and PLATE-GLASS WAREHOUSE, 26, SOHO-SQUARE.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now from ONE SHILLING PER FOOT SUP. and Borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms.—CHARLES LONG, No. 1, King-street, Baker-street, Portman-square.—Cash only.

E. and W. H. JACKSON beg to call the attention of Builders and the Trade to the LOW PRICES of their PATENT PLATE GLASS, BRITISH PLATE, silvered and for glazing, of unrivalled quality and finish; ROUGH PLATE, CROWN, SHEET, COLOURED, and ORNAMENTAL GLASS, in every variety, of the best manufacture, at the lowest terms. Designs and estimates furnished for ornamental windows, either for house or church decoration. All applications for estimates and lists of prices to be made at their warehouse, 315, OXFORD-STREET.

THOMAS MILLINGTON begs to inform BUILDERS and the Trade that he can supply them with FOREIGN and ENGLISH WINDOW GLASS, Plain and Coloured, of every description. ROUGH PLATE GLASS from ¼ inch to 1 inch thick. Glass Pantiles, Slates, &c. &c. White Lead, Paints, Colours, Oils, Varnishes, Brushes, &c.; Milled and Sheet Leads, Lead Pipe from ¼ inch to 4½ inches bore; Solder, Water-closets, Basins, Plumbers' and Brass Work of every description, and upon the very best terms. Glass Ornament Shades, Milk-pans, Propagating and Bee Glasses.—Address, 87, Bishopsgate-street Without.

See Advertisement, Saturday, June 28, 1851.

TO BUILDERS, PLUMBERS, &c.

JAMES MILES'S cheap ENGLISH and FOREIGN WINDOW-GLASS WAREHOUSE, 18, Church-street, Shoreditch, near the Eastern Counties Railway Terminus. Cases of foreign sheet, various sizes, 41s. 200 feet; crates of sheet, 14 to 16 oz., 24d. per foot; good crown C C, 18s. 30s. per crate; patent plate; Hartley's ROUGH PLATE; stained, ground, and ornamental glass; crown squares of every size in stock; sheet lead; pipe; patent gas-pipe; solder and plumbers' brass work of all kinds; white lead, oils, and colours, at low prices; LARGE STOCK of PAPER-HANGINGS; old lead bought in any quantity, or taken in exchange. Sashes glazed and primed in oil at very low prices, in any quantity.

GLASS MOSAIC.—GEO. HENRY STEVENS, Decorative Artist in Mosaic, having most successfully revived the ancient arts of Byzantine Mosaic, begs leave to offer to the notice of the nobility, gentry, architects, &c. Specimens of Panel Decoration in Geometrical Patterns; also combined with the introduction of Heraldic Decorations. G. H. S. respectfully solicits an inspection of his elegant Mosaic Tables, Reading Candelabra, Pier and Console Tables, Chess Tables and Boards, Urn Stands, &c. The mosaic is composed entirely of stained glass, and embedded in a very strong cement, that renders it as durable as stone or marble. Architects engaged in church decoration will find the Glass Mosaic peculiarly adapted for that purpose.—14, Stafford row, Buckingham gate, Pimlico.

WINDOW BLINDS.—TYLOR and PACE, Window Blind Manufacturers, 313, Oxford-street, adjoining Hanover-square, and 3, Queen-street, Cheapside, London, submit the following PRICES of WINDOW BLINDS, which they can recommend as being made in the best manner:—Venetian blinds, per square foot, 6d.; best holland blinds, on rollers, 6d.; best ditto on spring rollers, 8d.; gauze wire blinds, in mahogany frames, 1s. 10d.; perforated zinc blinds, in ditto, 1s. 8d.; outside blinds of striped cloth in cases, 1s. 9d. Transparent blinds in great variety. Engravings, with prices and discounts to builders and the trade, forwarded on application, post free.

TO ARCHITECTS, BUILDERS, &c.

ALL descriptions of TERRA COTTA, CEMENT, and PLASTER CASTINGS, executed in a first-rate manner, on reasonable terms, by J. HERBERT and SON, Modellers, &c. 45, Parker-street, Drury-lane. A splendid assortment of Corinthian, Ionic, and other Capitals; Centre Flowers, Balusters, Trusses, &c.; Elizabethan and other Chimney Shafts.

TO ARCHITECTS AND BUILDERS.

CHUBB'S WROUGHT-IRON and FIRE-PROOF DOORS and FRAMES, for strong Rooms. A large stock of the above of all sizes, made in the best manner, and of different strengths, fitted with CHUBB'S PATENT DETECTOR LOCKS, throwing from two to twenty bolts, constantly on sale, at very moderate prices. FIRE-PROOF SAFES of every size, and Patent Detector Locks and Latches for all purposes.—C. CHUBB and SON, sole Manufacturers, 57, St. Paul's Churchyard, London.

TO ARCHITECTS, SCULPTORS, BUILDERS, STONE and MARBLE MASONS, &c. &c.—ALABASTER QUARRIES, CHELLASTON, near DERBY.—Alabaster in blocks of almost any size, and of very superior quality, may now be obtained from these quarries on application to

Messrs. JOSEPH SMITH and SONS, HORNINGLOW, near BURTON-ON-TRENT.

This stone was extensively used during the Middle Ages for Monuments and other Ecclesiastical Decorations, and since that period until now has not been obtained in blocks of any size. Its colour is white, and beautifully variegated. It is easily worked, and capable of taking a high polish, which renders it suitable for every kind of internal House Decoration.

Agent in London, Mr. WILLIAM FIELD, 58, Holywell-street, Millbank; Depôt, 24, Wharf, Paddington, where a stock is always on hand.